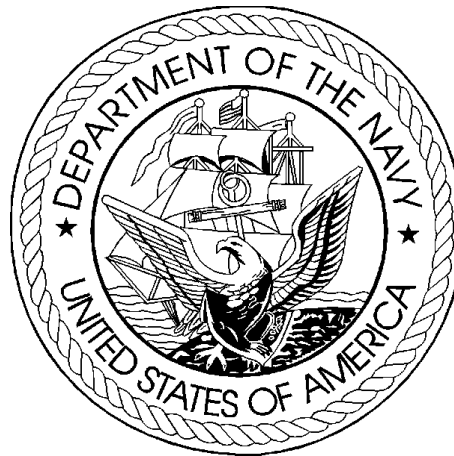


DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2006/FY 2007
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 2005

RESEARCH, DEVELOPMENT, TEST &
EVALUATION, NAVY
BUDGET ACTIVITY 7

UNCLASSIFIED
DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM
SUMMARY
(\$ IN THOUSANDS)

FEBRUARY 2005

Summary Recap of Budget Activities -----	FY 2004 -----	FY 2005 -----	FY 2006 -----
Operational Systems Development	2,745,863	3,185,667	3,350,699
Total Research, Development, Test & Eval, Navy	2,745,863	3,185,667	3,350,699
 Summary Recap of FYDP Programs -----			
Strategic Forces	124,923	171,091	174,055
General Purpose Forces	930,795	1,010,279	916,328
Intelligence and Communications	1,443,758	1,000,701	1,225,241
Research and Development			
Central Supply and Maintenance	85,401	76,947	67,765
Total Research, Development, Test & Eval, Navy	2,745,863	3,185,667	3,350,699

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item ----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
162	0603660N	Advanced Development Projects	07				
163	0603661N	Retract Violet	07				
164	0101221N	Strategic Sub & Weapons System Support	07	59,130	89,859	90,022	U
165	0101224N	SSBN Security Technology Program	07	36,980	42,949	44,063	U
166	0101226N	Submarine Acoustic Warfare Development	07	4,819	11,322	8,527	U
167	0101402N	Navy Strategic Communications	07	23,994	26,961	31,443	U
168	0203761N	Rapid Technology Transition (RTT)	07	9,619	19,493	24,653	U
169	0204136N	F/A-18 Squadrons	07	163,970	127,946	88,720	U
170	0204152N	E-2 Squadrons	07	18,863	18,576	2,256	U
171	0204163N	Fleet Telecommunications (Tactical)	07	22,177	22,874	32,694	U
172	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	74,754	31,473	20,342	U
173	0204311N	Integrated Surveillance System	07	14,117	20,034	23,453	U
174	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	5,558	3,668	4,768	U
175	0204571N	Consolidated Training Systems Development	07	21,900	22,433	42,248	U
176	0204574N	Cryptologic Direct Support	07	1,417	1,442	1,422	U
177	0204575N	Electronic Warfare (EW) Readiness Support	07	9,938	12,026	13,987	U
178	0205601N	HARM Improvement	07	50,420	165,634	90,832	U
179	0205604N	Tactical Data Links	07	41,599	18,744	86,364	U
180	0205620N	Surface ASW Combat System Integration	07	22,599	20,860	4,519	U

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item -----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
181	0205632N	MK-48 ADCAP	07	17,828	21,367	21,619	U
182	0205633N	Aviation Improvements	07	67,410	78,164	81,546	U
183	0205658N	Navy Science Assistance Program	07	12,009	7,151	3,917	U
184	0205675N	Operational Nuclear Power Systems	07	61,994	63,969	64,054	U
185	0206313M	Marine Corps Communications Systems	07	238,114	273,870	237,081	U
186	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	40,947	51,421	48,409	U
187	0206624M	Marine Corps Combat Services Support	07	24,663	16,109	10,476	U
188	0207161N	Tactical AIM Missiles	07	2,185	4,024	9,384	U
189	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	8,714	9,001	3,584	U
190	0301303N	Maritime Intelligence	07				
191	0301323N	Collection Management	07				
192	0301327N	Technical Reconnaissance and Surveillance	07				
193	0303109N	Satellite Communications (SPACE)	07	155,589	463,226	541,980	U
194	0303140N	Information Systems Security Program	07	25,769	26,511	28,660	U
195	0303158N	Joint Command and Control Program (JC2)	07			5,000	U
196	0304111N	Special Activities	07				
197	0305149N	COBRA JUDY	07	68,519	92,712	121,261	U
198	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	7,526	6,084	9,122	U
199	0305188N	Joint C4ISR Battle Center (JBC)	07	43,392	44,238	55,326	U

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item -----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
200	0305192N	Joint Military Intelligence Program - Defense Intelligence Tactical Program (DI)	07	5,241	4,704	4,290	U
201	0305204N	Tactical Unmanned Aerial Vehicles (JMIP)	07	85,652	76,985	99,349	U
202	0305205N	Endurance Unmanned Aerial Vehicles	07	95,181	85,799		U
203	0305206N	Airborne Reconnaissance Systems (JMIP)	07	26,675	14,375	27,918	U
204	0305207N	Manned Reconnaissance Systems (JMIP)	07	16,518	26,746	21,322	U
205	0305208N	Distributed Common Ground/Surface Systems (JMIP)	07	8,814	13,033	12,354	U
206	0307207N	Aerial Common Sensor (ACS) (JMIP)	07		24,683	133,642	U
207	0308601N	Modeling and Simulation Support	07	13,445	19,755	6,812	U
208	0702207N	Depot Maintenance (Non-IF)	07	8,524	7,000	10,012	U
209	0708011N	Industrial Preparedness	07	62,791	59,775	57,753	U
210	0708730N	Maritime Technology (MARITECH)	07	14,086	10,172		U
		Operational Systems Development		----- 2,745,863	----- 3,185,667	----- 3,350,699	
		Total Research, Development, Test & Eval, Navy		----- 2,745,863	----- 3,185,667	----- 3,350,699	

**Fiscal Year 2006 Budget Estimates
Budget Appendix Extract Language**

**RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY
(RDTEN)**

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, [\$17,043,812,000] *\$18,037,991,000*, to remain available for obligation until September 30, [2006] *2007: Provided*, That funds appropriated in this paragraph which are available for the V-22 may be used to meet unique operational requirements of the Special Operations Forces: *Provided further*, That funds appropriated in this paragraph shall be available for the Cobra Judy program. (*10 U.S.C. 174, 2352– 54, 7522; Department of Defense Appropriations Act, 2005.*)

Program: *Communications
Infrastructure*

Agency: *Department of Defense--Military*

Bureau: *Department of Defense--Military*

Rating: *Results Not Demonstrated*

Program Type: *Capital Assets and Service Acquisition*

Last Assessed: *2 years ago*

<i>Key Performance Measures from Latest PART</i>	<i>Year</i>	<i>Target</i>	<i>Actual</i>
Annual Measure: Percent of time that the Non-Secure Internet Protocol Router Network (NIPRNET) access circuit is available. NIPRNET is the unclassified IT system.	2000	> 98.5%	99.63%
	2001	> 98.5%	99.50%
	2002	> 98.5%	99.5%
	2003	> 98.5%	99.5%
Annual Measure: Number of bases upgraded by the Army Installation Information Infrastructure Modernization Program (I3MP)	2001	5	5
	2002	8	8
	2003	5	5

Update on Follow-up Actions:

<i>Recommended Follow-up Actions</i>	<i>Status</i>
DoD will develop common metrics to assess program performance across the department.	Action taken, but not completed

Program Funding Level (in millions of dollars)

<u>2004 Actual</u>	<u>2005 Estimate</u>	<u>2006 Estimate</u>
3,625	4,244	4,021

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: January 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE PE 0101221N Strategic Sub & Wpns Sys Spt			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost*(total may or may not add due to rounding)	59.2	89.9	90.0	89.4	93.1	93.3	94.9	97.1
0004 TRIDENT Submarine System Improvement	4.0	7.4	3.0	2.9	3.0	3.0	3.1	3.2
2228 Technology Applications Program	55.2	82.5	87.0	86.5	90.1	90.3	91.8	93.9

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications, Radiation Hardened Electronics Applications, and Strategic Propulsion Applications. The TRIDENT Submarine System Improvement Program develops and integrates command and control Improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7		PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt			PROJECT NUMBER AND NAME 0004 Trident Submarine Sys Imp			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.958	7.401	3.010	2.875	2.978	3.047	3.091	3.155
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The TRIDENT operational systems development program results in improvements to the baseline TRIDENT Combat System. Current TRIDENT Combat Systems were first developed in the early 1970s and are becoming increasingly difficult to maintain and offer comparatively less performance than more recently designed systems. Previous efforts to upgrade portions of the TRIDENT Combat System include improvements via sonar and combat control hardware and software (e.g., QE2 programs), feasibility of increased countermeasure capability and a concept evaluation of an Submarine Fleet Mission Program Library (SF MPL) interface. Due to the sensitivity of TRIDENT programs it is assessed that international technology will not have a major impact or be a recipient of the benefits derived from this effort. Development strategies will significantly enhance the sustainability and operability of the sonar, communications and Combat Control Systems on TRIDENTs by evaluating both Obsolete Equipment Replacement (OER) possibilities and potential improvements.</p>								

R-1 SHOPPING LIST - Item No.

164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt	PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Valve Regulated Lead Acid (VRLA) Batteries</td> <td style="text-align: center;">2.500</td> <td></td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">Valve Regulated Lead Acid (VRLA) Batteries are sealed state-of-the-art technology that significantly reduces the maintenance involved with traditional flooded lead acid submarine batteries. VRLA eliminates the need for air agitation systems, battery make-up water additions, flash arrestors and charcoal filters. VRLA enables convenience charging, requires no special ventilation lineups, requires fewer environmental concerns and offers increased life up to 8 years. Most importantly, VRLA batteries also have many workload (quality of life) and cost reduction benefits. FY04 funds will be used to perform the initial VRLA cell design, battery well assessment studies, install and operate prototype battery cells, and develop ship alteration packages for all classes.</p>						FY 04	FY 05	FY 06	FY 07	Valve Regulated Lead Acid (VRLA) Batteries	2.500		0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Valve Regulated Lead Acid (VRLA) Batteries	2.500		0.000	0.000															
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	FY 04	FY 05	FY 06	FY 07															
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	FY 04	FY 05	FY 06	FY 07															
Architecture Model Maintenance & COTS	0.371	0.677	0.576	0.687															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt	PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp	

B. Accomplishments/Planned Program (Cont.)

	FY 04	FY 05	FY 06	FY 07
TRIDENT Unique Obsolete Equipment Replacement (OER)	0.000	0.000	0.000	2.188
RDT&E Articles Quantity				

The TRIDENT Command and Control System (CCS) will continue to evolve during its extended service life. The driving factors that have, and will continue to influence the direction in which it will evolve include submarine fleet commonality, Commercial Off the Shelf (COTS) insertion, technology refresh/Planned Program Performance Improvements (P3I), network-centric architecture vice legacy point-to-point interfaces, and Obsolete Equipment Replacement (OER) needs. Given the extended life-span of the platform, the OER driver becomes inescapable, and the way associated CCS renovations will be managed must reflect the balance of the aforementioned drivers. To facilitate the replacement and enhancement of the TRIDENT CCS legacy subsystems, the CCS Renovations task will evaluate potential areas of renovation, and to identify a phased evolutionary approach that facilitates TRIDENT out-year planning and include the following activities:

Continue analysis of the physical requirements and characteristics of OER items, including the satisfaction of redundancy, high availability, survivability and out-year maintainability requirements.

Analyze and recommend applicable COTS hardware and software items, and the identification of any developmental items required for the completion of the final product as well as technical refresh of existing products.

Identify design options for centralized system anomaly, fault and failure data gathering and analysis.

Identify design options to better meet high availability and data throughput requirements levied by the processing of mission critical data as well as total system status and alarming in a net-centric environment, including the provision for a remote HMI capability in critical spaces to facilitate complete status monitoring and fault isolation capabilities.

Analyze networked architectures embraced by non-TRIDENT platforms for applicability.

Analyze design and component capture potential from other platforms and maximize commonality with proposed architectures.

Continue to conduct system engineering working group meetings to facilitate a plan to migrate away from the UYK-43 computer. This includes analysis of existing legacy subsystem requirements and the determination of applicability to future SSBN/SSGN design as well as identification of legacy functionality that may be accommodated by the DPS Workstation designs.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt	PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Thin Plate Lead Acid Battery	1.000	4.704	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Thin Plate Pure Lead Batteries - Submarine main storage batteries are the primary back-up source of power for nuclear submarines. Thin Plate Pure Lead technology (TPPL) is designed to improve the efficiency of the chemical reaction that occurs on the plates of batteries. Hence, incorporating TPPL technology into submarine batteries could significantly increase the achievable energy, power density and life of future submarine batteries. This effort would attempt to scale up the current TPPL product to a size suitable for use in submarine main storage batteries. It is possible that by coupling TPPL plates with VRLA battery technology, the Navy could further increase the energy, power density and life of VRLA submarine main storage batteries. The increase in battery life could result in a commensurate reduction in life cycle cost.</div>																			
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	FY 04	FY 05	FY 06	FY 07															
RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No.

164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt	PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget:	3.966	2.569	3.468	3.349
FY06/07 President's Budget	3.958	7.401	3.01	2.875
Total Adjustments	-0.008	4.832	-0.458	-0.474
Summary of Adjustments				
Congressional undistributed reductions	-0.001	-0.068		
Programmatic adjustments			-0.458	-0.474
Cancelled Accounts	-0.007			
Congressional increase Thin Plate		4.900		
Inflation Savings				
Subtotal	-0.008	4.832	-0.458	-0.474
Schedule:				
FY04 (4th Qtr) - Cell Qualification Testing				
FY05 (2nd QTR) - Certification / IOC				
Technical:				
Not Applicable				

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME PE 0101221N Strategic Sub & Wpns Sys Spt			PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
267600 / 267606 BA2 OPN (Electronics)	7219	5233	3285	3890	4019	4109	4248	4364	0	36367
095000 BA1 (HM&E)	20416	15712	11024	16808	10445	14281	16492	16977	0	122155
094500 / 094505 BA1 (Batteries)	13889	25927	26575	34075	41059	34488	32267	30207	0	238487

E. ACQUISITION STRATEGY:

VRLA Battery - The Type Commanders (TYCOMs) establish battery replacement schedules based on battery performance and maintenance availability. Beginning in FY05, NAVSEA intends to shift procurement from flooded batteries to VRLA. In FY06, the only replacement batteries available will be VRLA; thus the SHIPALT must be accomplished to support installations beginning in FY06.

Ship Control Station - The proposed architecture will consist of the following hardware components. Ship Control Panel (SCP), Ballast Control Panel (BCP), Remote Interface Controller (RIC), Remote Interface Box (RIB). The SCP will be modified be removing the existing panels and replacing them with the flat panel display that provide the operator controls and indications needed to control all plane surfaces. The existing emergency hydraulic control will be maintained.

F. MAJOR PERFORMERS:

VRLA Batteries - NSWC Crane, In: Development engineering and test support.
GNB, Fort Smith, Arkansas: Battery cell design/development.
General Dynamics Electric Boat, Groton, Connecticut: Ship alteration package design/development.
Northrop Grumman Newport News, Newport News, VA: Ship alteration package design/development.
Ship Control Station - Electric Boat, NSWC Carderock
Thin Plate Pure Lead Battery - NSWC Crane

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT PE 0101221N Strategic Sub & Wpns Sys Spt			PROJECT NUMBER AND NAME '0004 Trident Submarine Sys Imp						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
Design/Development Engineering	SS/CPFF	Electric Boat, Groton, CT	0.800	0.094	01/04	1.900	N/A	2.434	01/06	0.000	5.228	3.415
Design/Development Engineering	SS/CPFF	NG NNEWS, VA	1.270	0.000	01/04	0.000	N/A	0.000	N/A	0.000	1.270	1.270
Design/Development Engineering	SS/PD	SUPSHIP Groton, CT	0.500	1.054	03/04	0.000	N/A	0.000	N/A	0.000	1.554	1.554
Developmental Test & Evaluation	SS/WR	NSWC CRANE, IN	1.430	2.446	03/04	4.704	N/A	0.000	N/A	0.000	8.580	3.876
Design/Development Engineering	SS/WR	NSWC Carderock, MD	0.000	0.000	01/04	0.120	01/05	0.000	N/A	0.000	0.120	2.020
Design/Development Engineering	SS/WR	NUWC Newport, RI	0.480	0.364	01/04	0.677	01/05	0.576	01/06	0.000	2.097	1.976
Developmental Test & Evaluation	SS/WR	NUWC Newport, RI	0.723	0.000	01/00	0.000				0.000	0.723	0.723
											0.000	
Subtotal Product Development			5.203	3.958		7.401		3.010		0.000	19.572	
Remarks: NSWC Crane - Funds will be used to perform the initial VRLA cell design, battery well assessment studies and develop the prototype battery.												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-7			PE 0101221N Strategic Sub & Wpns Sys Spt			'0004 Trident Submarine Sys Imp						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Total Cost			5.203	3.958		7.401		3.010		0.000	19.572	
Remarks:												

R-1 SHOPPING LIST - Item No. 164

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EXHIBIT R4, Schedule Profile																								DATE:								
																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									PE 0101221N Strategic Sub & Wpns Sys Spt												'0004 Trident Submarine Sys VRLA/Thin Plate											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones								IOC ★																								
VRLA Battery Development	Complete ▲																															
ShipAlt Development (Three ShipAIs)		Start ▲					Complete △																									
VRLA Battery Procurments (OPN/SCN Funded)							Start △	VRLA Procurement through the FYDP to support ShipAlt Installation in all submarines																								
VRLA ShipAlt Installation (OPN/SCN Funded)							Start △	Installation goes through the FYDP to support ShipAlt Installation in all submarines																								
VRLA Battery Technology Enhancement (Thin Plate Technology)		▲																														

R-1 SHOPPING LIST - Item No. 164

* Not required for Budget Activities 1, 2, 3, and 6

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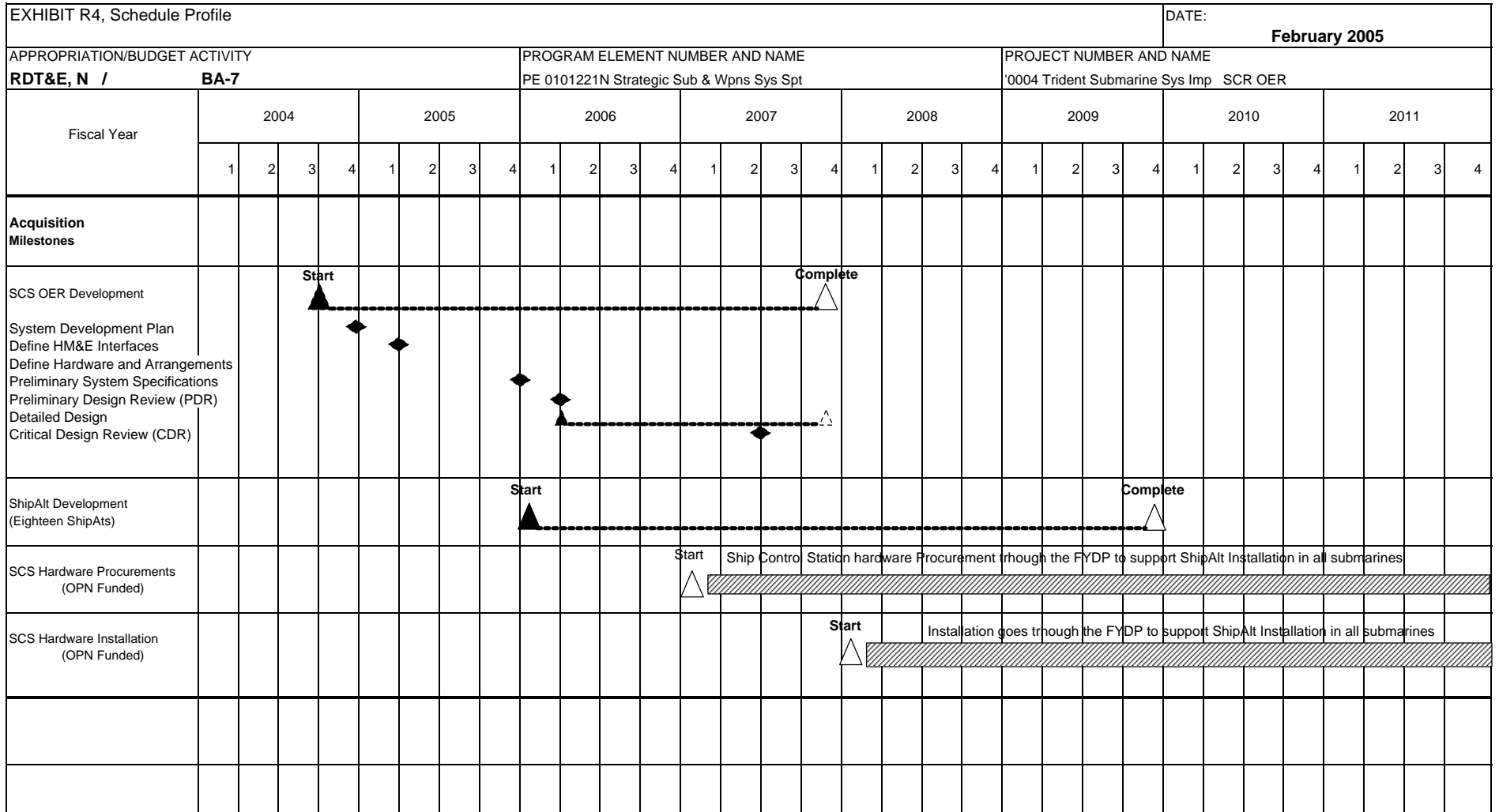
EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												PE 0101221N Strategic Sub & Wpns Sys Sp Architecture Model Maintenance & COTS												'0004 Trident Submarine Sys Imp UYK 43/TSDC											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
CCS Legacy System Renovation																																			
UYK-43 OER					Requirement Definition																														
TSDC OER					Requirement Definition																														
IC/TACNAV									Requirement Definition																										
SIM/STIM									Requirement Definition																										
SONAR/CC (Tech Refresh)					Problem Definition				Requirement Definition																										
Information Assurance					Requirement Definition																														

R-1 SHOPPING LIST - Item No. 164

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7	PE 0101221N Strategic Sub & Wpns Sys Spt				'0004 Trident Submarine Sys Imp			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
VRLA Battery Development	3Q							
Start VRLA ShipAt Development (Non RDT&E)	2Q							
Complete VRLA Ship Development (Non RDT&E)		4Q						
Start VRLA Battery Procurement (OPN/SCN)		2Q						
VRLA Battery Procurements (OPN/SCN)			1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q
Start VRLA Battery Installation (OPN/SCN)		4Q						
VRLA Battery ShipALT Installations			1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q	1Q- 4Q
VRLA Battery Technology Enhancements (Thin Plate)	2Q							
Prototype Development UYK-43 Replacement Design/Development			1Q-4Q	1Q-4Q				
SCAP								
MS								
SONAR								
TSDC Replacement Design/Development					1Q-4Q	1Q-4Q		
SHIP CONTROL STATION OBSOL EQUIP REP								
Prototype T&E HW/SW Evaluation							1Q-4Q	1Q-4Q
Develop System Development Plan	4Q							
Define Electrical and Mechanical System Interfaces		1Q						
Develop Concept Architecture and Arrangement		1Q						
Develop Preliminary System Segment Design Document (SSDD)		1Q,2Q,3Q						
Develop Preliminary System Descriptions		4Q						
Develop Program Cost Estimate and Schedule		4Q						
Develop System Segment Detailed Design		4Q	1Q,2Q					
Identify Component Specifications		4Q	1Q					
Develop Hardware Design			2Q,3Q					
Develop Shipboard Design Changes			4Q					
Develop Software Requirements Specification		2Q,3Q,4Q						
Develop Software Detail Design			1Q,2Q,3Q,4Q					

R-1 SHOPPING LIST - Item No. 164

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EXHIBIT R-2a, RDT&E Project Justification		DATE:	January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228	

COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost 2228 Technology Applications	55.2	82.5	87.0	86.5	90.1	90.3	91.8	93.9
RDT&E Articles Qty								

A. (U) MISSION DESCRIPTION AND BUDGET PROJECT JUSTIFICATION:

This project supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP), a coordinated Navy/Air Force Strategic Propulsion Applications Program (SPAP), and a coordinated Department of Defense Radiation Hardened Applications Program (RHAP). Reentry vehicle and guidance technology had been rapidly eroding beyond the point of being capable to respond to increasing aging phenomena and future requirements. The SPAP program, which commenced in FY 2004, demonstrates and validates technologies unique to strategic missile applications. The RHAP program, which commenced in FY 2004, addresses production, qualification and manufacturing issues associated with strategic and space radiation hardened electronics. The December 2001 DOD Nuclear Posture Review determined that infrastructure is a critical part of the new triad and these efforts form part of the infrastructure that supports the nuclear force structure.

- The RSAP program, through sustainment of the reentry vehicle technology base, will maintain confidence in the dependability and reliability of strategic SLBM and ICBM weapon systems over the long term when no new systems will be in development. Critical and unique attributes necessary for the design, development and in-service support of current and modernized SLBM reentry systems have been defined and will be maintained to insure a functioning readiness application technical capability in reentry is preserved. Working closely with the Air Force, Navy and Air Force requirements have been integrated into a comprehensive program. The program maintains close coordination with the DOD Science and Technology (S&T) community in order to: leverage S&T programs, ensure system driven technology base requirements are considered in contract awards, eliminate duplication of effort and provide an opportunity to demonstrate appropriate emerging technologies through a reentry flight test evaluation process.

- The GAP program provides a minimum strategic guidance core technology development capability consistent with the Strategic Advisory Group (SAG) recommendations to COMSTRATCOM. The SAG recommended that SSP establish a program which preserves this critical design and development core. It is a basic bridge program which develops critical guidance technology applicable to any of the existing Air Force/Navy strategic missiles. The objective is to transition from current capability to a long term readiness status required to support deployed systems. Air Force and Navy guidance technology requirements are integrated and needs prioritized. Efforts are focused on alternatives to technologies identified as system "weak links." Current system accuracy and functionality depends upon key technologies which provide radiation hardened velocity, attitude and stellar sensing capabilities. As the underlying technologies that currently provide these capabilities age and are no longer technically supportable, modern alternatives must be made available in order to allow for orderly replacement. There is no commercial market for these technologies and their viability depends on the strategic community.

- The SPAP program is a coordinated Navy/Air Force effort and addresses infrastructure needs by exercising critical developmental skills to allow for future large-scale rocket motor test firings. A sound base of demonstrated technologies suitable for Strategic Missile applications will be maintained and will provide the nation a talent base and source of technologies suitable for a follow-on development program. Boost propulsion (missile stages), post boost propulsion (missile payload delivery vehicle) and Ordnance (separation events and flight termination events) are all integral parts of missile propulsion application efforts.

- The RHAP program sustains critical skills in radiation hardened electronics by advancing radiation hardened simulation technologies to reflect the processes in future systems. These efforts become of greater importance because of the shrinking industrial base for radiation hardened electronics, the unavailability of underground testing resources, and the loss of radiation hardened expertise. These efforts are coordinated by the Radiation Hardened Oversight Council (RHOC) chaired by the Director, Defense Research & Engineering (DDR&E). The RHAP program focuses on a coordinated Productization & Qualification Program which provides a transition between Science and Technology (S&T) and production by efficient utilization of limited resources, sharing of information to eliminate redundancy, increased use of common part/technologies, coordination into the RHOC technology road map and implementation of the USD (AT&L) investment strategy. The RHAP compliments the GAP electronic part activities by specifically focusing on those tasks required to ensure producability of radiation hardened parts.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

B. (U) Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Reentry Systems Application Program (RSAP)	19.7	25.9	26.6	27.0
RDT&E Articles Quantity				

(U) FY 2004 PLAN

- (U) (\$19.7) Continued Reentry System Applications Program. Full obligation is complete.

FY 2004 efforts include:

- (U) Continued to maintain the current capability and implement planned service life extension of Navy reentry systems.
- (U) Assessed data relating to aging trends to establish the impact on system performance and address any effects on the extended service of the deployed systems. Plan and execute test programs for the evaluation of aging effects and the development of predictive methodologies to mitigate the risks associated with aging mechanisms and the planned extended service of the deployed Navy reentry systems.
- (U) Continued with the development, test, and assessment of replacement heatshield, nosetip, and aft closure materials for use on reentry systems, including those available from Science and Technology (S&T). Make recommendations for improved material thermal protection concepts and test techniques.
- (U) Continued development of low-cost design approach and components for Arming and Fuzing applications.
- (U) Assess, integrate, and test reentry system instrumentation, including software and hardware development for avionics computer, GPS, and inertial sensor technology.
- (U) Maintained the RSAP technical program plan, and conduct system assessments as required.
- (U) Continued development and improvement of analytical models and techniques for predicting reentry body and components response to stressing environments.
- (U) Improved methods of assessing the vulnerability and hardness of reentry systems in the absence of underground testing (UGT).

(U) FY 2005 PLAN

- (U) (\$25.9) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the first year.

FY 2005 efforts include:

- (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
- (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T).
- (U) Characterize and develop alternate low-cost heatshield and replacement nosetip material.
- (U) Conduct a ground and flight test program to assess performance of reentry components exposed to operational environments beyond their design life; complete evaluation of ground test results; flight test repackaged components for risk mitigation.
- (U) Initiate fabrication of RB inertial sensor flight test instrumentation for FY 2006 flight test.
- (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
- (U) Continue Reentry Body material development and advanced flight test instrumentation activities.
- (U) Begin development of radiation hardened processor for advanced GPS receiver.
- (U) Initiate feasibility study of the use of Terminal Fix Sensors (TFS) for target area trajectory correction
- (U) Ground test advanced reentry material systems
- (U) Initiate development of low cost replacement In Flight Disconnect (IFD) connector for the MK4A Reentry system
- (U) Initiate development of optimized Reentry Body separation system
- (U) Develop advanced avionics computer for new engineering instrumentation package.
- (V)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

B. (U) Accomplishments/Planned Program (Continued)

(U) FY 2006 PLAN

- (U) (\$26.6) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the first year.
FY 2006 efforts include:
 - (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
 - (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T).
 - (U) Flight test alternate low-cost heatshield and replacement nosetip material.
 - (U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments
 - (U) Complete development and flight test advanced reentry instrumentation such as inertial sensor and avionics computer, encapsulated on the updated engineering instrumentation package
 - (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
 - (U) Continue Reentry Body material development and advanced flight test instrumentation activities
 - (U) Continue development of advanced GPS receiver
 - (U) Ground test advanced reentry material systems and advanced instrumentation components
 - (U) Develop test instrumentation to demonstrate D5LE missile reentry body interface compatibility
 - (U) Continue development of low cost replacement In Flight Disconnect (IFD) connector for the MK4A Reentry system
 - (U) Continue development of optimized Reentry Body separation system

(U) FY 2007 PLAN

- (U) (\$27.0) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the first year.
FY 2007 efforts include:
 - (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
 - (U) Continue development of reentry vehicle replacement heatshield and nosetip materials and tooling
 - (U) Conduct aging assessment update for reentry vehicle materials and their replacements
 - (U) Develop low cost replacement materials using new/improved materials and processes for flight test experimentation.
 - (U) Develop appropriate flight test plan and initiate activities to test improved in-flight instrumentation data transfer
 - (U) Flight test and evaluate the Mk4A advanced engineering instrumentation package
 - (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
 - (U) Continue Reentry Body material development and advanced flight test instrumentation activities
 - (U) Continue development of test instrumentation to demonstrate D5LE missile reentry body interface compatibility
 - (U) Final development of advanced GPS receiver and integrate for flight test demonstration
 - (U) Continue ground testing of advanced instrumentation components

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

	FY 04	FY 05	FY 06	FY 07
Guidance Application Program (GAP)	17.5	20.5	21.0	21.4
RDT&E Articles Quantity				

(U) FY 2004 PLAN

- (U) (\$17.5) Continued Strategic Guidance Applications Programs (GAP). Full obligation is complete.
FY 2004 efforts include:
 - (U) Continued to develop alternate models for incorporation in Integrated Engineering Environment (IEE) and Hardware in the Loop (HWIL). Incorporate alternate sensor technologies into virtual system and HWIL. Utilize IEE/HWIL capability to perform system architecture/design tradeoffs in support of technology down select in FY 2006 for D5 Life Extension.
 - (U) Continued to evaluate high risk/high payoff sensor technologies (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Continue prototype radiation hard sensor build and test.
 - (U) Invested in non-volatile non-destructive memory development to meet MK6 Life Extension memory goals
 - (U) (Sensors) Designed, built, and evaluated Silicon Oscillator Accelerometer (SOA) support electronics and improved build processes. Prove SOA capability to meet Rad-hard strategic goals
 - (U) (GYRO) Built 8 gyros focused on improved dynamic and radiation margin in support of Life Extension.
 - (U) (GYRO) Developed Interferometric Fiber Optic Gyro (IFOG) hardenable electronic circuits.

(U) FY 2005 PLAN

- (U) (\$20.5) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the 1st year.
FY 2005 efforts include:
 - (U) Utilize alternate models for incorporation in IEE and HWIL. Exercise alternate sensor technologies in the virtual system and the HWIL experiments. Finalize IEE/HWIL capability to an increased fidelity for system architecture/design tradeoffs in support of technology downselect by FY 2006 for D5 Life Extension.
 - (U) Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hard sensor build and test results for appropriate applications.
 - (U) (Sensors) Design, build, and evaluate SOA support electronics and improved build processes. Prove SOA capability to meet Rad-hard strategic goals
 - (U) (GYRO) Build 6 gyros focused on improved dynamic and radiation margin in support of Life Extension.
 - (U) (GYRO) Develop IFOG hardenable electronic circuits.
 - (U) (Stellar) Invest in alternate star sensor technologies for advanced system concepts, e.g. Electron Bombarded (intensified) Charged Coupled Device (CCD) and Active Pixel sensors.

(U) FY 2006 PLAN

- (U) (\$21.0) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the 1st year.
FY 2006 efforts include:
 - (U) Completion of the prototype virtual system simulation model and demonstrate models in a closed-loop system. Modeling and simulation support for sub-system design and HWIL infrastructure development.
 - (U) Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hard sensor build and test results for appropriate applications.
 - (U) (SOA) Continue design, build and evaluate SOA support electronics and improved build processes. Prove SOA capability to meet Rad-hard strategic goals.
 - (U) (AltPIGA) Develop producible long-life, low cost hemispherical gas bearing wheel.
 - (U) (Hemospherical Resonator Gyro (HRG)) Examine and demonstrate technologies for reducing long term bias trending. Improve performance during and following shock and vibration events.
 - (U) (IFOG) Improve IFOG proximity electronics hardness to strategic radiation levels.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROJECT NUMBER AND NAME Technology Applications 2228	

B. (U) Accomplishment/Planned Program (Continued)

(U) FY 2007 PLAN

- (U) (\$21.4) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the first year.
FY 2007 efforts include:
 - (U) Support the IMU system integration effort, model simulation development in support of the enhanced ground testing (EGT) task, support remaining non-real-time subsystem/system simulation effort and support software Verification & Validation (V&V) testing.
 - (U) Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hardened sensor build and test results for appropriate applications.
 - (U) (SOA) Continue design, build and evaluate SOA support electronics and improved build processes. Test the all-silicon SOA in a strategic radiation environment.
 - (U) (AltPIGA) Develop producible long-life, low cost hemispherical gas bearing wheel and commercial processes/vendors for mass-produced flexure/pick off assemblies for AltPIGA.
 - (U) (IFOG) Build and radiation test complete sense head. Perfect technologies and processes for producing low cost Rad-hard fiber. Conduct investigations to improve circumvention and recovery performance.
 - (U) (HRG) Improve benign scale factor performance. Examine and demonstrate technologies for reducing long term bias trending. Improve performance during and following shock and vibration events.

EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
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B. (U) Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Strategic Propulsion Applications Program (SPAP)	7.9	21.3	18.2	17.8
RDT&E Articles Quantity				

(U) FY 2004 PLAN

- (U) (\$7.9) Initiated SPAP program. Full obligation is complete.

FY 2004 efforts included:

- (U) Conducted in depth biennial Industrial Base Assessment.
- (U) Identified, evaluated and down selected suitable technologies for boost motor test.
- (U) Identified and evaluated suitable technologies for post boost propulsion technologies test.
- (U) Identified and evaluated suitable technologies for ordnance technologies test.
- (U) Identified boost motor test fabrication hardware.

(U) FY 2005 PLAN

- (U) (\$21.3) Continue SPAP program. Full obligation is projected by the 3rd quarter of the first year.

FY 2005 efforts include:

- (U) Continue down select process of boost motor components by testing and prepare for a boost rocket motor test demonstration.
- (U) Initiate component tests for identified post boost control technologies.
- (U) Initiate component tests for identified missile ordnance technologies.
- (U) Complete fabrication of boost motor test hardware
- (U) Initiate down-select process for suitable post boost technologies test

(U) FY 2006 PLAN

- (U) (\$18.2) Continue SPAP program. Full obligation is projected by the 3rd quarter of the first year.

FY 2006 efforts include:

- (U) Conduct biennial Industrial Base assessment.
- (U) Complete boost rocket motor test demonstration
- (U) Complete boost rocket motor post test assessment and evaluation.
- (U) Continue component tests for identified post boost control technologies.
- (U) Continue component tests for identified missile ordnance technologies.
- (U) Continue down select process for suitable missile ordnance technologies test.

(U) FY 2007 PLAN

- (U) (\$17.8) Continue SPAP program. Full obligation is projected by the 3rd quarter of the first year.

FY 2007 efforts include:

- (U) Continue components tests for suitable boost motor technologies.
- (U) Continue component tests for identified post boost control technologies.
- (U) Continue to evaluate and down-select suitable post boost control technologies test.
- (U) Continue component tests for identified missile ordnance technologies.
- (U) Initiate preparations for post boost and ordnance demonstration test

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EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

B. (U) Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Radiation Hardened Applications Program (RHAP)	10.1	14.9	21.3	20.3
RDT&E Articles Quantity				

(U) FY 2004 PLAN

- (U) (\$10.1) Initiated RHAP program. Full obligation is complete.
FY 2004 efforts include:
 - (U) Commenced productization of .35 micron digital Silicon-On-Insulator (SOI) technology
 - (U) Commenced productization of .7 micron mixed signal SOI technology.
 - (U) Commenced technology/product development of alternate non-volatile memories, including Chalcogenide (CRAM), Magnetic (MRAM), and Silicon-On-Nitride (SONOS) technologies.
 - (U) Identified, evaluated and down-select in process for a physics based model for nuclear radiation effects (Electromagnetic Pulse (EMP) and X-ray) on missile and missile components..
 - (U) Identified, evaluated, and down-select in process for a physics based modeling method for nuclear radiation effects (System Generated EMP (SGEMP)) on missile cables and connectors.
 - (U) Identified and evaluating potential built in self test system circuit models and develop a strategy for modeling nuclear radiation effects.
 - (U) Commenced evaluation of post radiation SPICE models for dose rate, total ionizing dose events

(U) FY 2005 PLAN

- (U) (\$14.9) Continue RHAP program. Full obligation is projected by the 3rd quarter of the first year.
FY 2005 efforts include:
 - (U) Continue productization and qualification of .35 micron digital SOI technology.
 - (U) Continue productization and qualification of .7 micron mixed signal SOI technology.
 - (U) Continue physics based modeling method for nuclear radiation effects (X-ray, gamma, and neutron) on missile and guidance missile components.
 - (U) Initiate physics based modeling for nuclear radiation effects on complex digital circuits with built in testability.
 - (U) Initiate productization and qualification of high voltage analog SOI technology.
 - (U) Continue evaluation and validation of post radiation SPICE models for dose rate, total ionizing dose, and single event effects
 - (U) Continue technology/product development of alternate non-volatile memories, including Chalcogenide (CRAM), Magnetic (MRAM), and Silicon-on-Nitride (SONOS) technologies.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

B. (U) Accomplishments/Planned Program (Continued)

(U) FY 2006 PLAN

- (U) (\$21.3) Continue RHAP program, Full obligation is projected by the 3rd quarter of the first year.
FY 2006 efforts include:
 - (U) Initiate productization and qualification of .15 micron digital CMOS-epi and SOI technology.
 - (U) Continue productization and qualification of .35 micron mixed-signal SOI technology.
 - (U) Complete productization and qualification of .35 micron digital SOI technology
 - (U) Complete productization and qualification of .7 micron mixed-signal SOI technology
 - (U) Initiate productization and qualification of alternate non-volatile memories, including Chalcogenide (CRAM), Magnetic (MRAM) and Silicon-on-Nitride (SONOS) technologies.
 - (U) Continue productization and qualification of high-voltage analog SOI technology.
 - (U) Complete physics based modeling methods for nuclear radiation effects (X-ray, gamma, neutron) on missile and guidance/missile components.
 - (U) Continue physics based modeling for nuclear radiation effects on complex digital circuits with built in testability.
 - (U) Continue evaluation and validation of post radiation SPICE models for dose rate, total ionizing dose, neutron and single event effects.
 - (U) Initiate physics based modeling of survivability and rail-span collapse of complex digital circuits in dose-rate (X-ray and gamma) environment.

(U) FY 2007 PLAN

- (U) (\$20.3) Continue RHAP Program. Full obligation is projected by the 3rd quarter of the first year.
FY 2007 efforts include:
 - (U) Continue productization and qualification of .15 micron digital CMOS-epi and SOI technology.
 - (U) Complete productization and qualification of .35 micron mixed-signal SOI technology.
 - (U) Continue productization and qualification of alternate non-volatile memories, including Chalcogenide (CRAM), Magnetic (MRAM) and Silicon-on-Nitride (SONOS) technologies.
 - (U) Initiate productization and qualification of .15 micron mixed-signal SOI technology.
 - (U) Complete productization and qualification of high-voltage analog SOI technology.
 - (U) Complete physics based modeling methods for nuclear radiation effects on complex digital circuits with built in testability.
 - (U) Complete evaluation and validation of post radiation SPICE models for dose rate, total ionizing dose, neutron and single event effects.
 - (U) Continue physics based modeling of survivability and rail-span collapse of complex digital circuits in dose-rate (X-ray and gamma) environment.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: January 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROJECT NUMBER AND NAME Technology Applications 2228

C. (U) Other Program Funding Summary: (Dollars in Thousands)

<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Total Complete</u>	<u>Total Cost</u>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

D. (U) Acquisition Strategy:

Contracts will continue to be awarded to those sources who were engaged in the TRIDENT II (D5) development program and are currently engaged in the production and/or operational support of the deployed D5 Strategic Weapons Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3 4.

E. (U) Major Performers:

- LMSS / CA - Reentry Body Systems integration (RSAP)
- NSWC / VA - Heatshield Nosetip materials development (RSAP)
- ITT / CO - Vulnerability and hardness technologies (RSAP)
- CSDL / MA - Reentry Systems flight test instrumentation (RSAP)
- DOE / NM - Advanced fuzing technology (RSAP)
- CSDL / MA - Guidance Application program support (GAP)
- CSDL/MA- Guidance radiation hardened electronics integration(RHAP)
- HI/FL- RADHARD application specific Integrated Circuit library (RHAP)
- NGMS/CA- RADHARD oxi-nitride non-volatile memory productization (RHAP)
- CSDL/MA- Analog, digital, mixed-signal and discreet radiation model development (RHAP)
- BAE/MD- 4M-bit RADHARD Chalcogenide non-volatile memory product development (RHAP)
- NAWC/CA - Rocket motor testing & integration(SPAP)
- LMSSC/CA - Missile systems integration (SPAP)
- NSWC/VA - Coordinating and executing ordnance tests (SPAP)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis										DATE: January 2005									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT					PROJECT NUMBER AND NAME									
RDT&E, N / BA-7					PE 0101221N Strategic Sub & Wpns Sys Spt					Technology Applications 2228									

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support & Management														
Technology Applications	SS - CPFF	LMMS / CA	57.7	11.1	10-03	12.8	10-04	12.5	10-05	13.7	10-06	Cont.	Cont.	TBD
Technology Applications	WR	NSWC / CA	40.5	5.6	10-03	5.8	10-04	5.7	10-05	6.2	10-06	Cont.	Cont.	TBD
Technology Applications	MIPR	DOE / NM	17.1	0.6	10-03	1.0	10-04	1.0	10-05	1.0	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	CSDL / MA	5.6	1.0	10-03	4.0	10-04	5.4	10-05	4.2	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	ITT / CO	1.0	1.3	10-03	1.8	10-04	1.8	10-05	1.9	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	CSDL / MA	120.0	17.5	10-03	20.5	10-04	21.0	10-05	21.4	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	LMSSC/CA	N/A	6.8	10-03	17.7	10-04	17.0	10-05	16.6	10-06	Cont.	Cont.	TBD
Technology Applications	WR	NAWC/CA	N/A	0.8	10-03	2.1	10-04	0.4	10-05	0.4	10-06	Cont.	Cont.	TBD
Technology Applications	WR	NSWC / CA	N/A	0.2	10-03	1.0	10-04	0.8	10-05	0.8	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	CSDL / MA	N/A	2.2	10-03	5.2	10-04	5.8	10-05	5.6	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	HI/FL	N/A	5.6	10-03	6.2	10-04	8.5	10-05	6.7	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	NGMS/CA	N/A	1.0	10-03	1.5	10-04	1.5	10-05	2.0	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	BAE /MD	N/A	1.3	10-03	0.5	10-04	3.5	10-05	4.0	10-06	Cont.	Cont.	TBD
Technology Applications	SS - CPFF	INTERSIL	N/A			1.5	10-04	2.0	10-05	2.0	10-06	Cont.	Cont.	TBD
Technology Applications	VARIOUS	VARIOUS	N/A	0.2	10-03	0.9	10-04	0.1	10-05		10-06	Cont.	Cont.	TBD
Subtotal Product Development			241.9	55.2		82.5		87.0		86.5	10-06	Cont.	Cont.	TBD

Remarks:

Total Cost			241.9	55.2		82.5		87.0		86.5		Cont.	Cont.	

Remarks:

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Development/0101226N				PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
Project 1265/Sub Defensive Warfare Systems	4.819	11.322	8.527	2.164	4.313	7.622	7.837	8.009	CONT.	CONT.
RDT&E Articles Qty										

Defense Emergency Responses Funds (DERF): Not Applicable

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops a Submarine Defensive Warfare System (SDWS) to improve the effectiveness and survivability of all classes of US submarines. Acoustic Intercept consist of developing a new acoustic sensor, the Sparsely Populated Volumetric Array (SPVA), that will improve the performance of acoustic intercept systems and will provide a ranging capability for submarines through Acoustic Rapid COTS Insertion (ARCI) and Advanced Process Build (APB) software improvements. Submarine Littoral Warfare Weapon (SLWW) will enable engagement of air threats and potentially small boats through adaptation of an existing air-to-air missile for submarine launch. Anti-Torpedo Torpedo (ATT) will conduct a dynamic launch study to determine physical capability of the ATT All-Up-Round (AUR), as designed for Surface Ship Torpedo Defense application, to survive storage and launch environments for the CSA MK 2 Countermeasure Launcher. Next Generation Countermeasure (NGCM) efforts entails simulation and effectiveness analysis of new technologies from Future Naval Capability (FNC) and SBIR efforts at the Weapons Analysis Facility (WAF). The WAF analysis provides the US Navy with robust testing of new hardware and software within a detailed representation of complex acoustic environments.

R-1 SHOPPING LIST - Item No. 166

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 1 of 7)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Dev/0101226N	PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265																																																																													
B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;">Acoustic Intercept</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.900</td> <td style="text-align: center;">0.500</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> FY04 - Conduct SACA/ SPVA Sea-Test to confirm performance and validate configuration for FY06 production. FY05 - Participate in APB 05 Sea-Test. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;">WAF Analysis</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.112</td> <td style="text-align: center;">1.973</td> <td style="text-align: center;">2.583</td> <td style="text-align: center;">1.796</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> FY 04-07 - Continue to conduct countermeasure proofing and effectiveness analysis for designated torpedo at Weapons Analysis Facility (WAF) . </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;">NGCM</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">5.599</td> <td style="text-align: center;">3.944</td> <td style="text-align: center;">0.368</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> FY05-Begin transition of Future Naval Capability (FNC) technologies into existing fleet countermeasures. FY06-07 - Continue transitioning of Future Naval Capability (FNC) technologies into existing fleet countermeasures. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;">ATT</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.250</td> <td style="text-align: center;">2.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> FY05 - Conduct a dynamic study on submarine launch design. FY06 - Analyze data from study to address constraints of the submarine launched ATT design and assess hardening ATT for Sub launch applications. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;">SLWW</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">2.807</td> <td style="text-align: center;">3.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> FY04- Congressional Plus-Up Add to initiate CONOP studies and perform seeker characterization and targeting system testing to initiate preliminary engineering design of demonstration system components. FY05- Congressional Plus-Up Add to continue seeker characterization study and conduct land based demonstration of the AIM-9X Missile. </div>					Acoustic Intercept	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.900	0.500	0.000	0.000	RDT&E Articles Quantity					WAF Analysis	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.112	1.973	2.583	1.796	RDT&E Articles Quantity					NGCM	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	5.599	3.944	0.368	RDT&E Articles Quantity					ATT	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.250	2.000	0.000	RDT&E Articles Quantity					SLWW	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.807	3.000	0.000	0.000	RDT&E Articles Quantity				
Acoustic Intercept	FY 04	FY 05	FY 06	FY 07																																																																											
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RDT&E Articles Quantity																																																																															

R-1 SHOPPING LIST - Item No. 166

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 7)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Dev/0101226N	PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	5.889	8.453	8.633	8.793
FY 06 President's Budget	4.819	11.322	8.527	2.164
Total Adjustments	-1.070	2.869	-0.106	-6.629

Summary of Adjustments

Programmatic Adjustment	-1.070	-0.131	-0.106	-6.629
SLWW Congressional Plus-Up		3.000		
Subtotal	-1.070	2.869	-0.106	-6.629

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 166

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7		Sub Acoustic Warfare Dev/0101226N			Submarine Defensive Warfare Systems/1265					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN - 221000/221005 Submarine Acoustic Warfare Systems	25.765	20.729	27.332	20.472	17.145	21.085	21.508	21.849	CONT.	CONT.
E. ACQUISITION STRATEGY: *										
See Attached Schedule										
F. MAJOR PERFORMERS: **										
See Attached R-3										

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7			PROGRAM ELEMENT Sub Acoustic Warfare Dev/0101226N			PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
WAF Analysis	WX	NUWC Newport, RI	0.000	0.796	12/03	1.500	10/04	1.600	12/05	1.500	12/06	CONT.	0.000	
SPVA System Engineering	WX	NUWC Newport, RI	0.000	0.900	02/04	0.500	12/04	0.000		0.000		CONT.	0.000	
NGCM System Engineering	WX	NUWC Newport, RI	0.000	0.000		5.822	12/04	4.627	01/06	0.539	01/07	CONT.	0.000	
SLWW	WX	NUWC Newport, RI	0.000	0.429	05/04	0.450	04/05	0.000		0.000		CONT.	0.000	
SLWW	CPFF	Lockheed Martin, Manassas, VA	0.000	1.800	04/04	0.000		0.000		0.000		CONT.	0.000	
SLWW	CPFF	Raytheon Middleton, RI	0.000	0.656	06/04	2.550	05/05	0.000		0.000		CONT.	0.000	
ATT	FFP	PSU State College, PA	0.000	0.000		0.100	02/05	1.800	02/06	0.000				
ATT	WX	NUWC Newport, RI	0.000	0.000		0.080	12/04	0.100	12/05	0.000				
ATT	WX	NSWC Crane, IH	0.000	0.000		0.070	12/04	0.100	12/05	0.000				
Subtotal Product Development			0.000	4.581		11.072		8.227		2.039			0.000	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Miscellaneous													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000			0.000	

R-1 SHOPPING LIST - Item No. 166

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 5 of 7)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7			PROGRAM ELEMENT Sub Acoustic Warfare Dev/0101226N			PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													0.000	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000			0.000	
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support	C/CPFF	EG&G Gaithersburg, MD	0.000	0.200	06/04	0.200	06/05	0.250	11/05	0.100	11/06	CONT.	0.000	
Travel		PMS415	0.000	0.038	11/03	0.050	11/04	0.050	11/05	0.025	11/06	CONT.	0.000	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	0.238		0.250		0.300		0.125			0.000	
Remarks:														
Total Cost			0.000	4.819		11.322		8.527		2.164			0.000	
Remarks:														

R-1 SHOPPING LIST - Item No. 166

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 7)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, RDT&E Project Justification					DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7		Sub Acoustic Warfare Dev/0101226N			Submarine Defensive Warfare Systems/1265			
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Acoustic Intercept Improvement Initiative - SPVA	Sensor Development							
		▲△ At-Sea Tests (TACDEVEX)						
	Transition Phase							
Weapons Analysis Facility								
	CM Effectiveness / WAF Threat Vulnerability							
NGCM		○ Signal Generator Band ○ Tactical/Adaptive Processor (SACM) ○ Single Crystal Torpedo Freq.				○ Acoustic Communications ○ Fire Through Friendly Fire		
			○ Single Crystal Sonar Freq. ○ Full Duplex Mobility			○ Group Behavior ○ Classification Table ○ RF Up-Link		
○ Technology Insertion								

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

Exhibit R-4, RD TEN Project Justification
(Exhibit R-4, page 7 of 7)

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0101402N Navy Strategic Communications			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	23.994	26.961	31.443	22.739	17.272			
0793 E-6 Service Life Assessment	4.927	1.192	3.913					
3002 Navy Strategic Communications Block 1	19.067	25.769	27.530	22.739	17.272			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(0793) A Service Life Assessment of selected critical components is being performed on the E-6B. The original service life of this airframe was 27,000 hours based on a prescribed weight and expected operational usage. Current weight and operational usage exceed those original values and lessen, by some unknown value, the original 27,000 hour airframe service life. SLAP is a two- phase program. Phase 1 is conducting a general study to define the critical locations using data gathered from the fleet and previous test data. Phase 1A will use data gathered during Phase 1 to develop a finite element model. Phase 2 will conduct the detailed analyses of the critical locations. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6 Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, and optimize the E-6 Maintenance Plans. The contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

(3002) The E-6B Block I program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS)/Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHF C3) system. The Block I project also incorporates an Open Systems Architecture (OSA), adds improved operator workstations throughout the aircraft which, in addition to reducing workload and improving system interoperability, provides a foundation for future evolutionary upgrades. Other modifications enhance power and cooling capabilities for ground operations without any ground support.

Block I was STRATCOM's POM-02 Integrated Priority List (IPL) no. 1 item, was fully supported in STRATCOM's PR-03 IPL and is a key capability in STRATCOM's POM 06 IPL Capabilities Matrix. Secretary of Defense's March 2003 Nuclear Posture Review implementation requires that the service fund E-6 sustainability, survivability, and modernization. The 2004-2009 Defense Planning Guidance supports accelerated completion of the Block I program.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications				PROJECT NUMBER AND NAME 0793 E-6 Service Life Assessment			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.927	1.192	3.913					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(0793) A Service Life Assessment of selected critical components is being performed on the E-6B. The original service life of this airframe was 27,000 hours based on a prescribed weight and expected operational usage. Current weight and operational usage exceed those original values and lessen, by some unknown value, the original 27,000 hour airframe service life. SLAP is a two- phase program. Phase 1 is conducting a general study to define the critical locations using data gathered from the fleet and previous test data. Phase 1A will use data gathered during Phase 1 to develop a finite element model. Phase 2 will conduct the detailed analyses of the critical locations. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6 Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, and optimize the E-6 Maintenance Plans. The contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications	PROJECT NUMBER AND NAME 0793 E-6 Service Life Assessment		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Engineering & Technical Support / \$10.032	4.927	1.192	3.913	
RDT&E Articles Quantity				
<p>Funding supports the E-6 Service Life Assessment Program, which includes the following efforts: assemble and deliver GFI; assist contractor in developing critical location selection criteria; develop finite element model; perform RCM Analysis; assess scheduled maintenance impacts; perform supportability analysis; attend technical review meetings; review and correct CDRs; determine the load-to-strain/stress relationships for each critical location; generate a service spectra and calculate critical location fatigue lives that 85 percent of the fleet should exceed; perform damage tolerance analysis to determine critical location inspection techniques and intervals; evaluate life enhancement potential for life-critical locations; modify the LOOPIN fatigue damage algorithms to accept available individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft fatigue life expended (FLE) values for all critical locations; validate SDRS for baseline individual aircraft FLE values; develop damage tolerance algorithms to accept available individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft crack size (growth) values for all critical locations.</p>				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 3 of 18)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications	PROJECT NUMBER AND NAME 0793 E-6 Service Life Assessment		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	3.093	3.228	4.217	
Current BES/President's Budget	4.927	1.192	3.913	
Total Adjustments	1.834	-2.036	-0.304	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.036		
Congressional rescissions				
SBIR/STTR Transfer	-0.064			
Other adjustments		-2.000	-0.457	
Economic Assumptions			0.153	
Reprogrammings	1.898			
Congressional increases				
Subtotal	1.834	-2.036	-0.304	0.000

Schedule:

The change in schedule is due to a delay in the Phase I contract award.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 167

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications			PROJECT NUMBER AND NAME 0793 E-6 Service Life Assessment				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
056400 E-6 A/B Series	48.023	19.645	11.219	17.384	59.932	69.395	70.760	72.186	133.713	502.257

E. ACQUISITION STRATEGY:

SLAP is a sole source program due to the proprietary nature of the data needed to complete the required studies and analyses. Each phase of SLAP will be awarded a separate cost-reimbursable delivery order under a Basic Ordering Agreement (BOA) with Boeing.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0101402N Navy Strategic Communications			0793 E-6 Service Life Assessment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Studies & Analyses - Phases 1, 1A & 2	SS/CPFF	Boeing Wichita, KS	3.886	0.106	Various	2.827	10/05				6.819	6.819
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			3.886	0.106		2.827		0.000		0.000	6.819	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0101402N Navy Strategic Communications			PROJECT NUMBER AND NAME 0793 E-6 Service Life Assessment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Government Engineering Support	WX	NAWC AD, PAX River, MD	1.028	0.792	10/04	0.573	10/05				2.393	
Government Engineering Support	WX	NADEP JAX, FL	0.582	0.274	10/04	0.493	10/05				1.349	
Contractor Engineering Support	FFP/T&M	Titan, Lexington Park, MD	0.035								0.035	0.035
Travel	Various	Various	0.002	0.020	Various	0.020	Various				0.042	
											0.000	
											0.000	
Subtotal Management			1.647	1.086		1.086		0.000		0.000	3.819	
Remarks:												
Total Cost			5.533	1.192		3.913		0.000		0.000	10.638	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 18)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0101402N Navy Strategic Communications												0793 E-6 Service Life Assessment											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Contract Award (Phase 1)		▲	Contract Award (Phase 1)																													
SLAP Phase 1 - Load and Stress Analysis and Critical Area Selection		■							Phase 1																							
Contract Award (Phase 1A)			▲	Contract Award (Phase 1A)																												
SLAP Phase 1A - Finite element model			■							Phase 1A																						
Contract Award (Phase 2)									▲	Contract Award (Phase 2)																						
SLAP Phase 2 - Detailed Analysis of Critical Areas with SLEP Modification Recommendations									■				Phase 2																			
Milestone C													▲	MS-C																		

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No.

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Exhibit R-4a, Schedule Detail

(Exhibit R-4a, page 9 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications				PROJECT NUMBER AND NAME 3002 Navy Strategic Communications Block 1			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	19.067	25.769	27.530	22.739	17.272			
RDT&E Articles Qty		1	1					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(3002) The E-6B Block I program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS)/Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHF C3) system. The Block I project also incorporates an Open Systems Architecture (OSA), adds improved operator workstations throughout the aircraft which, in addition to reducing workload and improving system interoperability, provides a foundation for future evolutionary upgrades. Other modifications enhance power and cooling capabilities for ground operations without any ground support. Systems Integration Lab (SIL) RDT&E articles will be procured and installed to support CT, DT, and OT testing. The SIL comprises a fully functional set of E-6B mission avionics in a lab environment. The purpose of the SIL is risk reduction and design verification prior to pre-production aircraft modification. During CT, DT, and OT, the SIL will be used where feasible to reduce total flight test hours and costs. Pre-production aircraft RDT&E articles will be procured to support CT, DT, and OT testing.

Block I was STRATCOM's POM-02 Integrated Priority List (IPL) no. 1 item, was fully supported in STRATCOM's PR-03 IPL and is a key capability in STRATCOM's POM 06 IPL Capabilities Matrix. Secretary of Defense's March 2003 Nuclear Posture Review implementation requires that the service fund E-6 sustainability, survivability, and modernization. The 2004-2009 Defense Planning Guidance supports accelerated completion of the Block I program.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications	PROJECT NUMBER AND NAME 3002 Navy Strategic Communications Block 1																																															
B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Acquisition planning & field activity support</td> <td>4.301</td> <td>2.711</td> <td>5.278</td> <td>4.435</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Funding supports acquisition planning, acquisition strategy adjustment, requirements analysis and refinement, industry conferences, DoD 5000 series document development and revision, program management, technical review and oversight, Systems Integration Lab modification and test, contract management activities, preliminary and critical design reviews, CDRL reviews, technical interchange and program management meetings; developmental and operational test and evaluation planning, execution, and reporting in support of government review and design approval for the replacement of DAISS, MCS, UHF C3 System, incorporation of OSA with new servers and operator stations, and fixes in ground power and cooling capabilities for austere operations. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>A&AS (engineering, mgmt support, analysis)</td> <td>3.751</td> <td>2.440</td> <td>2.480</td> <td>2.520</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Funding supports engineering, management, trade studies, and studies and analysis contract support services for acquisition planning and development of acquisition documents, schedule development and monitoring, industry conferences, DoD 5000 series document development and revision, engineering and C3 architectural studies and analysis, Systems Integration Lab modification and test, logistics planning, training planning and CDRL reviews for the replacement of DAISS, MCS, UHF C3 System, incorporation of OSA with new servers and operator stations, and fixes in ground power and cooling capabilities for austere operations. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Prime Systems Development</td> <td>11.015</td> <td>20.618</td> <td>19.772</td> <td>15.152</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td>1</td> <td>1</td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> Funding supports all prime contract tasks following award for Block I program initiation, engineering research, design development, integration and test of OSA, MCS, DAISS, power, cooling, and other subsystems related to Block I; preparations and conduct of design reviews (engineering, logistics, training, test) including PDR, CDR, and TRRs; Systems Integration Laboratory modification, preparation for and presentation of the Block I design, contractor developmental test and evaluation planning, and leading to LRIP approval and award. </div>						FY 04	FY 05	FY 06	FY 07	Acquisition planning & field activity support	4.301	2.711	5.278	4.435	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	A&AS (engineering, mgmt support, analysis)	3.751	2.440	2.480	2.520	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Prime Systems Development	11.015	20.618	19.772	15.152	RDT&E Articles Quantity		1	1	
	FY 04	FY 05	FY 06	FY 07																																													
Acquisition planning & field activity support	4.301	2.711	5.278	4.435																																													
RDT&E Articles Quantity																																																	
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RDT&E Articles Quantity																																																	
	FY 04	FY 05	FY 06	FY 07																																													
Prime Systems Development	11.015	20.618	19.772	15.152																																													
RDT&E Articles Quantity		1	1																																														

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 11 of 18)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications	PROJECT NUMBER AND NAME 3002 Navy Strategic Communications Block 1		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Contractor/Developmental Testing				0.632
RDT&E Articles Quantity				
<p>Funding supports Contractor/Developmental Testing. Contractor and Government development tests include all activities necessary for the planning, execution, and reporting of tests and demonstrations necessary to verify and validate the E-6B Block I design in support of a determination of readiness to enter OPEVAL. CT and DT will be conducted using the Systems Integration Laboratory and pre-production aircraft. The SIL will be used where feasible to prototype, verify, and validate the design prior to aircraft modification, and train DT and OT aircrews and maintainers. Pre-production aircraft testing includes ground qualification testing and design verification and validation flight testing.</p>				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 18)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0101402N Navy Strategic Communications	3002 Navy Strategic Communications Block 1	

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	19.942	28.163	28.321	23.406
Current BES/President's Budget	19.067	25.769	27.530	22.739
Total Adjustments	-0.875	-2.394	-0.791	-0.667
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.289		
Congressional rescissions				
SBIR/STTR Transfer	-0.526			
Other adjustments		-2.105	-1.053	-1.005
Economic Assumptions	-0.018		0.262	0.338
Reprogrammings	-0.331			
Congressional increases				
Subtotal	-0.875	-2.394	-0.791	-0.667

Schedule:

Schedule changes are due to a delay in the approval of the ORD, which caused a subsequent delay in the approval of various acquisition documents that were necessary for a Milestone B decision and contract award.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 167

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 13 of 18)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0101402N Navy Strategic Communications			PROJECT NUMBER AND NAME 3002 Navy Strategic Communications Block 1				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
056400 E-6 A/B Series	48.023	19.645	11.219	17.384	59.932	69.395	70.760	72.186	133.713	502.257
 E. ACQUISITION STRATEGY:										
Competitively awarded Cost Plus Award Fee (CPAF) development contract with follow on Firm Fixed Price (FFP) production contract.										

R-1 SHOPPING LIST - Item No. 167

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0101402N Navy Strategic Communications			3002 Navy Strategic Communications Block 1						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	Rockwell, Cedar Rapids, IA	9.365	17.720	11/04	17.258	11/05	13.241	11/06	11.566	69.150	69.150
Award Fees	C/CPAF	Rockwell, Cedar Rapids, IA	1.650	2.898	Various	2.514	Various	1.911	Various	1.377	10.350	10.350
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			11.015	20.618		19.772		15.152		12.943	79.500	
Remarks: The first award fee for the prime contract was for the six month evaluation period from April 2004 -September 2004 and was obligated in November 2004.												
Studies & Analyses	Various	Various A&AS	2.830	0.111	10/04	0.112	10/05	0.113	10/06	0.071	3.237	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			2.830	0.111		0.112		0.113		0.071	3.237	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0101402N Navy Strategic Communications			3002 Navy Strategic Communications Block 1						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC AD, PAX River, MD						0.632	03/07		0.632	
Operational Test & Evaluation	WX	NAWC AD, PAX River, MD								1.095	1.095	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.632		1.095	1.727	
Remarks:												
Program Management Support	Various	Various A&AS	5.020	1.213	Various	1.231	Various	1.249	Various	0.771	9.484	
Government Engineering Support	WX	NAWC AD, PAX River, MD	10.505	1.858	10/04	3.807	10/05	3.050	10/06	0.869	20.089	
Government Engineering Support	WX	NADEP JAX, FL	0.615	0.228	10/04	0.286	10/05	0.291	10/06	0.296	1.716	
Government Engineering Support	Various	NAWC TSD Orlando, FL	0.542	0.102	10/04	0.219	10/05	0.222	10/06	0.227	1.312	
Government Engineering Support	WX	Various	0.606	0.123	10/04	0.466	10/05	0.372	10/06	0.079	1.646	
Contractor Engineering Support	Various	Various A&AS	5.615	1.116	Various	1.137	Various	1.158	Various	0.521	9.547	
Travel		Various	0.643	0.400	Various	0.500	Various	0.500	Various	0.400	2.443	
											0.000	
Subtotal Management			23.546	5.040		7.646		6.842		3.163	46.237	
Remarks:												
Total Cost			37.391	25.769		27.530		22.739		17.272	130.701	
Remarks:												

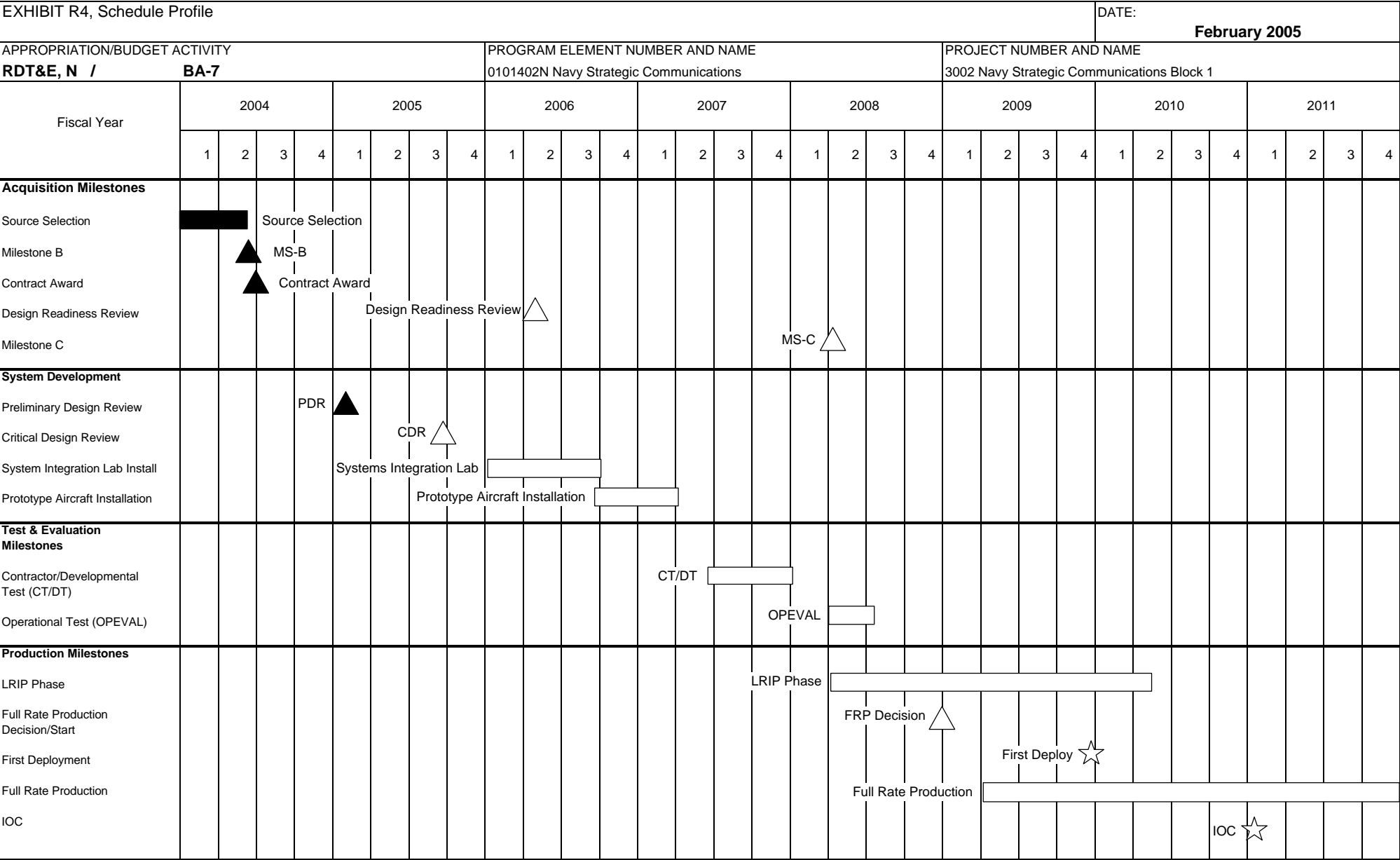
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 18)

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CLASSIFICATION:



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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT 0101402N Navy Strategic Communications				PROJECT NUMBER AND NAME 3002 Navy Strategic Communications Block 1		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Source Selection	1Q-2Q							
Milestone B (MS-B)	2Q							
Contract Award	2Q							
Preliminary Design Review (PDR)		1Q						
Critical Design Review (CDR)		3Q						
Design Readiness Review			2Q					
Systems Integration Lab			1Q-4Q					
Aircraft Installation			3Q-4Q	1Q-2Q				
Contractor/Developmental Testing (CT/DT)				2Q-4Q				
Milestone C (MS-C)								
Operational Testing (OPEVAL)								
LRIP Phase								
Full Rate Production (FRP) Decision/Start								
First Deployment								
Full Rate Production (FRP)								
IOC								

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 18 of 18)

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N
PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total	9,619	19,493	24,653	24,649	24,959	24,990	23,305	25,629
PE Cost								
3126	0	19,493	24,653	24,649	24,959	24,990	25,305	25,629
4021	9,619	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Rapid Technology Transition (RTT) program is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into DON acquisition programs and the hands of the warfighter. A key aspect of the RTT program is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT program is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Rapid transition opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the Program Objectives Memorandum (POM) cycle. The RTT program is designed to be pro-active in identifying opportunities and to work with resource sponsors, fleet and force users, and program managers in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, RTT interacts with the venture capital community and industry. The RTT program coordinates closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, RTT applies execution year funds where necessary to "jump-start" transitions so they can be inserted and validated by Sea Trial experiments leading directly to deployment and/or demonstrations of high risk/high payoff technologies.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N
PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROGRAM CHANGE SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2005 President's Budget Submission	9,889	14,630	14,661	14,659
Cong Rescissions/Adjustments/Undist. Reductions	0	-233	0	0
Congressional Action	0	5,100	0	0
Joint IED Task Force	0	0	5,000	5,000
Program Adjustments	0	-4	-8	-10
Rapid Technology Transition (RTT)	0	0	5,000	5,000
SBIR Assessment	-270	0	0	0
FY 2006/2007 President's Budget Submission	9,619	19,493	24,653	24,649

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable

Schedule: Not applicable.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: R3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
R4021/R3126 RAPID TECHNOLOGY TRANSITION (RTT)	9,619	19,493	24,653	24,649	24,959	24,990	25,305	25,629

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the RTT program is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into DON acquisition programs and the hands of the warfighter. A key aspect of the RTT program is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT program is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Rapid transition opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the POM cycle. The RTT program is designed to be pro-active in identifying opportunities and to work with resource sponsors, fleet and force users, and program managers in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, RTT interacts with the venture capital community and industry. The RTT program coordinates closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, RTT applies execution year funds where necessary to "jump-start" transitions so they can be inserted and validated by Sea Trial experiments leading directly to deployment and/or demonstrations of high risk/high payoff technologies.

The RTT program was funded under Project R4021 in FY 2004 and is funded under Project R3126 from FY 2005 on.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROJECT NUMBER: R3126

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2004	FY 2005	FY 2006	FY 2007
RTT	9,619	14,443	24,653	24,649

FY 2004 Accomplishments:

- Developed and executed a process for matching technology insertion opportunities with high priority needs. This process includes interfaces with the technology, acquisition, resource sponsor and user communities, and with industry.
- Brokered high payoff technology transition deals with programs of record, using RTT as the source of bridge funding for a rapid start. FY 2004 deals included: Highly Integrated Photonics (HIP) in the EA-6B; Battle Force E-mail for P-3C; Commercial Bandwidth Optimization for Surface Ships; Secure High Frequency (HF) Internet capability for E-2C; Metal Matrix Composite Shaft Seals for DDG-51; Automated E-2C Air Tasking Order capability for Joint targeting; and completion of On-Board Vehicle Power for USMC HMMWVs and Modular Mission Payload Architecture.
- Engaged the Venture Capital (VC) community to identify innovative technology sources that might not otherwise be visible to DoD. Venture Capitalists (VCs) invest in small, agile, technology companies whose products often have dual use potential. The RTT followed up on leads from VCs, and worked directly with VC-backed portfolio companies and Naval programs of record to develop technology transition deals for product variants that will meet defense system needs. Engaging the VC community increases DON awareness, leverages commercial investments, and reduces time to market for technologies to meet current naval needs.

FY 2005 Plans:

- Initiate transformational deals. Develop larger deals with innovative and disruptive technologies that support accelerating achievements of SEA POWER 21 objectives.
- Initiate projects to be selected/supported by the OSD Joint-Improvised Explosive Devices Task Force.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: R3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

- Continue RTT initiatives. Execute the process developed in FY 2004 to broker a new set of technology transition deals enabled by FY 2005 RTT bridge funding, using the insight into acquisition and warfighter needs gained through development of the FY 2004 transition deals to increase the innovation and impact of the FY 2005 transition deal set. The goal is to complete 5-8 new technology transition deals. Projects are expected to be similar in nature to the deals closed in FY 2004, with substantial improvements in performance, readiness, and/or total ownership costs in response to needs identified by programs of record. Opportunities under evaluation in FY 2005 include: Urethane Encapsulated Main Shaft and Propeller Support Struts for the DDG-51; Quality of Service (QoS) on Encrypted Data Stream for Surface Ships; On-board Oxygen Generating System for Advanced Hawkeye; Radio Frequency Identification (RFID) for High Value Asset Tracking; and Commercial Network Disaster Recovery for Surface Ships.
- Continue RTT venture initiatives. Conduct activities to follow up on leads generated through the Naval Research Advisory Committee (NRAC) panel on VC. Utilize leading commercial (non-defense industry) trends identified by the NRAC VC panel to guide development of FY 2005 RTT transition deals.
- Complete FY 2004 transitions. Complete transitions initiated in FY 2004 such as: Highly Integrated Photonics (HIP) in the EA-6B; Battle Force E-mail for P-3C, Commercial Bandwidth Optimization for Surface Ships; Secure High Frequency (HF) Internet capability for E-2C; Metal Matrix Composite Shaft Seals for DDG-51; and Automated E-2C Air Tasking Order for Joint targeting. Monitor technical and programmatic progress towards acquisition of all transitions initiated in FY 2004.

FY 2006 Plans:

- Continue RTT initiatives. Execute the process to broker a new set of technology transition deals enabled by FY 2006 RTT bridge funding, using the insight into acquisition and warfighter needs gained through development of the FY 2004 and FY 2005 transition deals to increase the innovation and impact of the FY 2006 transition deal set. The goal is to complete 5-8 new technology transition deals. Projects are expected to be similar in nature to the deals closed in FY 2004/FY 2005, with substantial improvements in performance, readiness, and/or total ownership costs in response to needs identified by programs of record.
- Continue transformational deals that support accelerating achievements of SEA POWER 21 objectives.
- Continue RTT venture initiatives. Conduct activities to follow up on VC leads generated through the

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: R3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

NRAC VC panel. Utilize leading commercial (non-defense industry) trends identified by the NRAC VC panel to guide development of FY 2006 RTT transition deals.

- Continue projects selected/supported by the OSD Joint-Improvised Explosive Devices Task Force.
- Complete FY 2005 transitions. Complete transitions initiated in FY 2005 such as: Urethane Encapsulated Main Shaft and Propeller Support Struts for the DDG-51; QoS on Encrypted Data Stream for Surface Ships; On-board Oxygen Generating System for Advanced Hawkeye; and RFID for High Value Asset Tracking. Monitor technical and programmatic progress towards acquisition of all transitions initiated in FY 2004/FY 2005.

FY 2007 Plans:

- Continue RTT initiatives. Execute the process to broker a new set of technology transition deals enabled by FY 2007 RTT bridge funding, using the insight into acquisition and warfighter needs gained through development of the prior year transition deals to increase the innovation and impact of the FY 2007 transition deal set. The goal is to complete 5-8 new technology transition deals. Projects are expected to be similar in nature to the deals closed in prior years, with substantial improvements in performance, readiness, and/or total ownership costs in response to needs identified by programs of record.
- Continue transformational deals that support accelerating achievements of SEA POWER 21 objectives.
- Continue RTT venture initiatives. Conduct activities to follow up on VC leads generated through the NRAC VC panel. Utilize leading commercial (non-defense industry) trends identified by the NRAC VC panel to guide development of FY 2007 RTT transition deals.
- Continue projects selected/supported by the OSD Joint-Improvised Explosive Devices Task Force.
- Complete transitions initiated in FY 2006. Monitor technical and programmatic progress towards acquisition of all transitions initiated in prior years.

C. OTHER PROGRAM FUNDING SUMMARY:

NAVY RELATED RDT&E: All technology investments in DON.

NON-NAVY RELATED RDT&E: All technology investments outside DON.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROJECT NUMBER: R3126

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

D. ACQUISITION STRATEGY:

Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROJECT NUMBER: R3126

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R3126	FY 2004	FY 2005
DISRUPTIVE TECH OPPORTUNITIES FUNDS (DFOB)	0	5,050

Initiate a Navy partnership with the Defense Advanced Research Projects Agency (DARPA) on a portfolio of high-risk, high-payoff projects to address pressing naval challenges. Specific areas to be funded are "WASP" Micro Air Vehicles; Fast Connectivity for Coalitions and Agents; Improving Warfighter Information Intake Under Stress; and Translingual Information Detection, Extraction and Summarization.

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	163.970	127.946	88.720	21.046	13.629	10.473	10.650	10.906
1662 F/A-18 Improvements	56.193	36.887	21.273	14.678	10.713	10.473	10.650	10.906
2065 F/A-18 RADAR Upgrade	107.777	89.434	67.447	6.368	2.916			
9614 Military Rapid Response Command Info. Sys.		1.625						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is capable of using external equipment to perform either fighter or attack missions. The capabilities of the F/A-18 weapon system can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued development capability is required to successfully optimize new F/A-18 weapon system capabilities in the Fleet and to ensure interoperability in a network centric environment. Additionally, continued improvements in reliability and maintainability are necessary to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

F/A-18 Improvements: The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including the Joint Helmet Mounted Cueing System (JHMCS), development and integration of the Multifunctional Information Distributions System (MIDS), conversion of the System Configuration Set (SCS) to a Higher Order Language (HOL), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A18, and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and provide software based on reported fleet problems.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 40)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS	
<p>F/A-18 Radar Upgrade: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program, beginning in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, Synthetic Aperture Radar (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 radars by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons significantly increases A/A and A/G detection and tracking ranges. The AESA provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA is also more affordable than previous radars. Significant savings in operating and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.</p> <p>Military Rapid Response Command Information System: The Military Rapid Response-Command and Information System (MRR CIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval TACAIR (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground C2 nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and JFCOM's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform a initial proof-of-concept demonstration , system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the Sea Power 21/ForceNet concepts above.</p>		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	56.193	36.887	21.273	14.678	10.713	10.473	10.650	10.906
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including the Joint Helmet Mounted Cueing System (JHMCS), development and integration of the Multifunctional Information Distributions System (MIDS), conversion of the System Configuration Set (SCS) to a Higher Order Language (HOL), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A18, and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and provide software based on reported fleet problems.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 3 of 40)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.255</td><td style="text-align: center;">1.758</td><td style="text-align: center;">2.176</td><td style="text-align: center;">2.635</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development of the aircraft. Provide technical support for the integration of new weapons, systems, and Network Centric Warfare capability.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.255	1.758	2.176	2.635	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.255	1.758	2.176	2.635															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">12.326</td><td style="text-align: center;">12.583</td><td style="text-align: center;">12.766</td><td style="text-align: center;">9.193</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Continue to develop and integrate enhancements to the effectiveness, interoperability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include MIDS and ANAV.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	12.326	12.583	12.766	9.193	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	12.326	12.583	12.766	9.193															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">18.752</td><td style="text-align: center;">12.141</td><td style="text-align: center;">1.400</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Continue and complete development of JHMCS Front Seat and Operational Test. Start and complete development of Aft Seat capability.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	18.752	12.141	1.400		RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	18.752	12.141	1.400																
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">14.327</td><td style="text-align: center;">7.257</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Complete software conversion from Assembly language to Higher Order Language (HOL) to include Software Configuration Set H1E and H2E. Start and complete Validation/Verification (V/V), OT, and OT&E.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	14.327	7.257			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	14.327	7.257																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">8.533</td><td style="text-align: center;">3.148</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Complete Aft Crew Station development, integration, and testing.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	8.533	3.148			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	8.533	3.148																	
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost			4.931	2.850															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.169

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">(U)Funding:</th> <th style="text-align: right; width: 15%;">FY 04</th> <th style="text-align: right; width: 15%;">FY 05</th> <th style="text-align: right; width: 15%;">FY 06</th> <th style="text-align: right; width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">64.504</td> <td style="text-align: right;">44.296</td> <td style="text-align: right;">14.603</td> <td style="text-align: right;">11.320</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">56.193</td> <td style="text-align: right;">36.887</td> <td style="text-align: right;">21.273</td> <td style="text-align: right;">14.678</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-8.311</td> <td style="text-align: right; border-top: 1px solid black;">-7.409</td> <td style="text-align: right; border-top: 1px solid black;">6.670</td> <td style="text-align: right; border-top: 1px solid black;">3.358</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td style="text-align: right;">-0.018</td> <td style="text-align: right;">-0.400</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-1.298</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other adjustments</td> <td></td> <td style="text-align: right;">-7.009</td> <td style="text-align: right;">6.266</td> <td style="text-align: right;">3.105</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.060</td> <td></td> <td style="text-align: right;">0.404</td> <td style="text-align: right;">0.253</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-6.935</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-8.311</td> <td style="text-align: right; border-top: 1px solid black;">-7.409</td> <td style="text-align: right; border-top: 1px solid black;">6.670</td> <td style="text-align: right; border-top: 1px solid black;">3.358</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <ul style="list-style-type: none"> - MIDS: H2E operational test schedule slipped by one quarter to allow time to fix software discrepancies discovered in developmental testing. This slip in H2E operational test has also delayed MIDS OT&E. - JHMCS Aft seat: Milestone decision authority has delayed FRP and CDR by one quarter to allow time for the government to negotiate a better FRP contract. H1E fleet release will be released same time as H2E fleet release. - ANAV: Developmental contract was awarded in Sept 2003, a one quarter delay, which caused PDR and CDR to slip by 2 quarters. - ACLS: Money was programmed in the budget for the replacement for ACLS in the F/A-18. <p style="margin-top: 20px;">(U) Technical:</p>					(U)Funding:	FY 04	FY 05	FY 06	FY 07	Previous President's Budget:	64.504	44.296	14.603	11.320	Current BES/President's Budget	56.193	36.887	21.273	14.678	Total Adjustments	-8.311	-7.409	6.670	3.358	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions	-0.018	-0.400			Congressional rescissions					SBIR/STTR Transfer	-1.298				Other adjustments		-7.009	6.266	3.105	Economic Assumptions	-0.060		0.404	0.253	Reprogrammings	-6.935				Congressional increases					Subtotal	-8.311	-7.409	6.670	3.358
(U)Funding:	FY 04	FY 05	FY 06	FY 07																																																																						
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 6 of 40)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 1662 F/A-18 Improvements				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
APN-1 (E/F) Weapons System Cost Line Item 4 F/A-18E/F Hornet (MYP)	3043.917	2979.309	2822.335	2333.992	2044.012	1802.502	1806.927	1558.971		18391.965
APN-1 (G) Weapons System Cost Line Item 2 EA-18G		8.211	336.661	891.507	1308.289	1627.333	1469.445	1083.602		6725.048
APN-5 Line Item 30 F-18 Series Modification	373.004	424.132	422.444	465.966	519.802	541.896	516.594	523.002	1340.9	5127.74

Related RDT&E
(U) P.E. 064269N EA-18 G (FY05-11)
(U) P.E. 0604270N Electronic Warfare Development (FY02-04)

E. ACQUISITION STRATEGY:

The F/A-18 Improvements program consists of extensive development projects and integration of avionics systems onto the F/A-18E/F. The major programs within the F/A-18 Improvements project are:

- **ANAV.** ANAV development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as CFE through the prime contractor.
- **Higher Order Language (HOL).** The conversion of the System Configuration Set software to HOL will be accomplished by the F/A-18 Advanced Weapons Laboratory at China Lake as the designated Software Support Activity for the F/A-18. The design of the software will be accomplished by Boeing under sole source cost type contracts. The contract vehicle is a Technical Direction Letter contract at China Lake. As the Prime contractor for the aircraft, Boeing is the design agent for software of aircraft in production.
- **Advanced Crew Station.** The design and development of the Advanced Crew Station modification is sole source to Boeing as the Prime aircraft contractor.
- **MIDS.** An acquisition developmental effort supported by SPAWAR (PMW-159), MIDS is being developed by a consortium of international companies.
- **JHMCS.** JHMCS development is via a sole source cost plus award fee Joint Air Force contract to Boeing.
- **ACLS.** ACLS development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as CFE

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Exhibit R-2a, RDTEN Project Justification

(Exhibit R-2a, page 7 of 40)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			1662 F/A-18 Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development PIDS/DCS	SS/CPFF/FFP	MDA-ST LOUIS,MO	90.000								90.000	90.000
Primary Hardware Development ATFLIR	SS/CPIF/AF	MDA-ST LOUIS,MO	166.147								166.147	166.147
AWARD FEE ATFLIR			1.576								1.576	
Primary Hardware Development ANAV	SS/CPFF	MDA-ST LOUIS,MO	13.522	5.193	01/05	2.912	01/06	0.575	01/07	0.734	22.936	22.936
Primary Hardware Development ACS	SS/CPIF	MDA-ST LOUIS, MO	50.301	0.192	12/04						50.493	50.493
Primary Hardware Development JHMCS	MIPR	WPAFB DAYTON, OHIO	45.315	4.094	01/05						49.409	
Primary Hardware Development MISC.	WX	OTHER FIELD ACTIVITIES	30.516	0.267	VAR					20.528	51.311	
Primary Hardware Development ACS	SS/CPFF	Triton, MD	2.500								2.500	2.500
Ancillary Hdw Develop ATFLIR	WX	NAWCAD-LAKEHURST NJ	9.201								9.201	
System Engineering	WX	NAWCAD, PAX RIVER, MD	3.792	1.092	12/04						4.884	
Subtotal Product Development			412.870	10.838		2.912		0.575		21.262	448.457	
Remarks: FY99 and prior year award fee earned is 74.7% (ATFLIR)												
Development Support MISC	VARIOUS	VARIOUS	36.792	1.475	12/04	1.459	12/05	0.958	12/06	2.989	43.673	
Software Development	WX	NAWCWD-CHINA LAKE	130.494	15.397	11/04	5.266	11/05	4.193	11/06	4.317	159.667	
Software Development (TDL)	SS/CPIF/TDL	MDA/NAWCWD-CHINA LAK	127.560	4.612	11/04	3.800	11/05	2.777	11/06	0.370	139.119	139.119
Prior Year Costs	Various	Various	2,567.069								2,567.069	
Subtotal Support			2,861.915	21.484		10.525		7.928		7.676	2,909.528	
Remarks: Prior year costs (FY95 & prior) not broken out into separate categories.												

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Exhibit R-3, Project Cost Analysis
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			1662 F/A-18 Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	51.668	0.794	11/04	4.501	11/05	2.700	11/06	2.000	61.663	
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	9.251	2.051	12/04	1.400	12/05	2.198	11/06	1.000	15.900	
Subtotal T&E			60.919	2.845		5.901		4.898		3.000	77.563	
Remarks:												
Program Management Sup	VARIOUS	NAVAIR, PAX RIVER, MD	13.843	0.915	12/04	1.157	12/05	0.547	12/06	8.548	25.010	
Travel	WX	NAVAIR, PAX RIVER, MD	5.229	0.805	VAR	0.778	VAR	0.730	VAR	2.256	9.798	
Subtotal Management			19.072	1.720		1.935		1.277		10.804	34.808	
Remarks:												
Total Cost			3,354.776	36.887		21.273		14.678		42.742	3,470.356	
Remarks:												

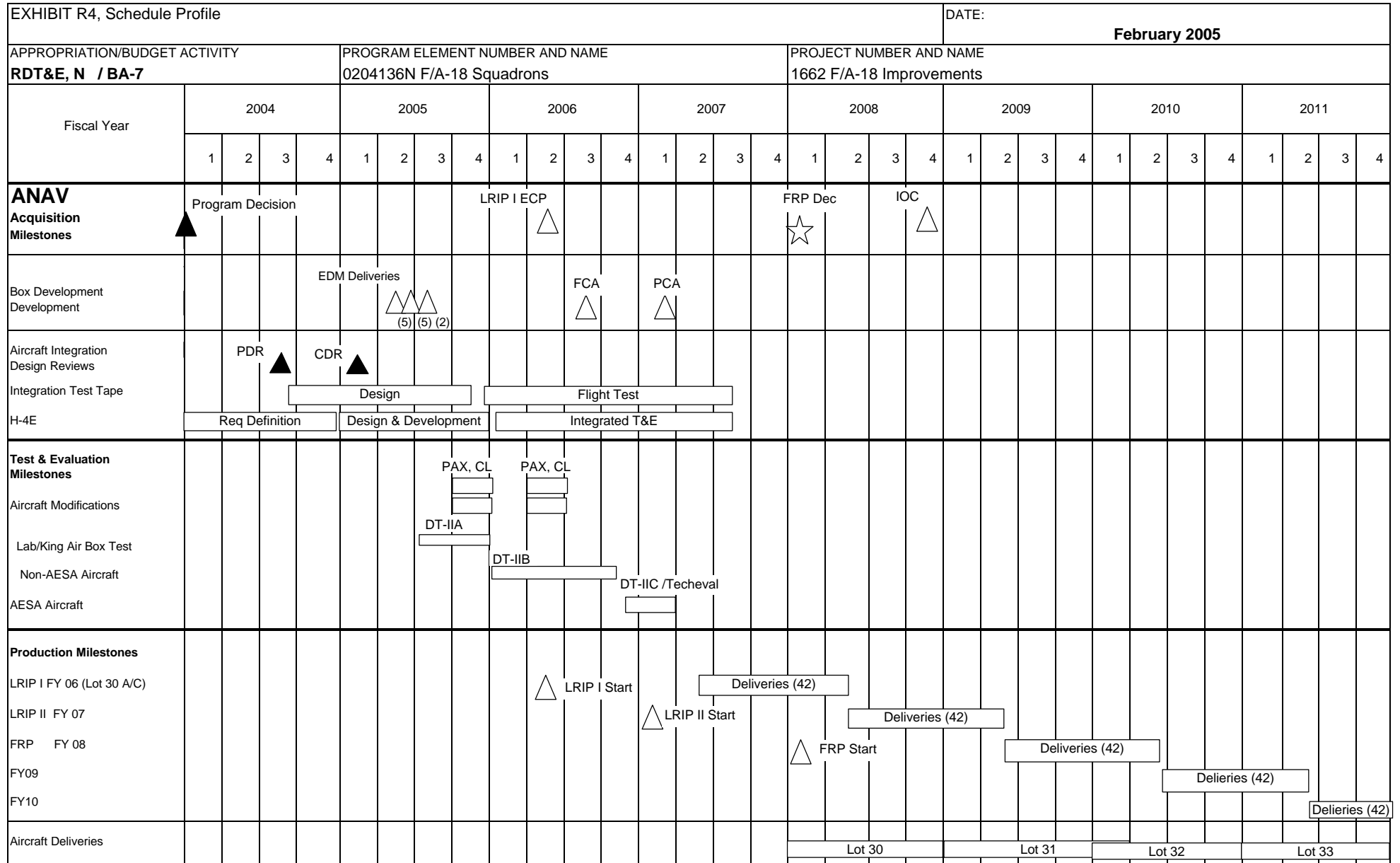
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 40)

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 10 of 40)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N / BA-7	0204136N F/A-18 Squadrons			1662 F/A-18 Improvements				
Schedule Profile for ANAV	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Box Critical Design Review (CDR)	1Q							
Eng Dev Model (EDM) Radar Delivery - Lab		2Q-3Q						
System Preliminary Design Review (PDR)	3Q							
System Critical Design Review (CDR)		1Q						
Test Tape Development/Test	3Q-4Q	1Q-4Q						
Flight Test		4Q	1Q-4Q	1Q-3Q				
H-4E SCS Requirement Definition	1Q-4Q							
H-4E SCS Development/Test		1Q-4Q	1Q-4Q	1Q-3Q				
Aircraft Modification		4Q	1Q, 2Q-3Q					
Lab/King Air Flt Test		3Q-4Q						
Developmental Testing (DT-IIA)		3Q-4Q						
Start Low-Rate Initial Production I (LRIP I)			2Q					
DT-IIB			1Q-4Q					
DT-IIC			4Q	1Q				
Functional Configuration Audit (FCA)			3Q					
LRIP I Delivery				2Q-4Q				
LRIP II Start				1Q				
Physical Configuration Audit				1Q				
DT-IIC TECHEVAL			4Q	1Q				
LRIP II Delivery								
FRP Start								
IOC								
FRP Deliveries								

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 11 of 40)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																		DATE: February 2005														
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME															
RDT&E, N / BA-7					0204136N F/A-18 Squadrons												1662 F/A-18 Improvements															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
ACS Acquisition Milestones	FRP DVMC												IOC																			
	△												☆																			
Prototype Phase																																
Test & Evaluation Milestones																																
	H2E DT							TECH EVAL																								
								FOT&E																								
Production Milestones																																

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for ACS	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FRP DVMC	1Q							
First flight Developmental Testing (DT) for ACS Aircraft with H2E.	1Q-4Q	1Q-3Q						
TECHEVAL		4Q	1Q-2Q					
FOT&E ACS			2Q-4Q					
IOC			4Q					

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 13 of 40)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0204136N F/A-18 Squadrons												1662 F/A-18 Improvements											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
ACLS Acquisition Milestones																	IOC																		
Development Phase										Design/Integration																									
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
Production Activities																																			
Aircraft Lot 30 Deliveries																																			
Aircraft Lot 31 Deliveries																																			
Aircraft Lot 32 Deliveries																																			
Aircraft Lot 33 Deliveries																																			

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 14 of 40)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile, ACLS	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Design/Integration			1Q-4Q	1Q				
Operational Test Readiness Review (OTRR)				1Q				
Operational Evaluation (OPEVAL)				2Q-3Q				
IOC								
Lot-30 Deliveries				4Q				
Lot-31 Deliveries								
Lot-32 Deliveries								
Lot-33 Deliveries								

R-1 SHOPPING LIST - Item No. 169

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 15 of 40)

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 16 of 40)

R-1 SHOPPING LIST - Item No. 169

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for HOL		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
H1E									
Follow On Test and Evaluation (FOT&E)		1Q							
H2E Requirements Definition									
Development Test (DT)		1Q-2Q							
Validation & Verification (V&V)		1Q-3Q							
Operational Test Readiness Review (OTRR)		3Q							
Follow On Test and Evaluation (FOT&E)		3Q-4Q	1Q						
Fleet Release			2Q						

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 17 of 40)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-7								0204136N F/A-18 Squadrons												1662 F/A-18 Improvements												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
JHMCS Acquisition Milestones		MS III △																														
Prototype Phase																																
JHMCS Front Seat Development																																
JHMCS Aft Seat Development	PDR △			CDR △																												
Software OFP-19C Delivery OFP-H3E Delivery	TRR △	DT		Ver/Val △	FOT&E △	Delivery △							OTRR △	FOT&E △	Delivery △																	
	Design/Develop △			TRR △		DT							OTRR △	FOT&E △	Delivery △																	
Test & Evaluation Milestones																																
Development Test	D/F Aft △	DT																														
Operational Test																																
Production Deliveries																																
LRIP III																																
LRIP IV																																
FRP																																

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Note: MS III decision in work by MDA. Proposed plan, addition of LRIP IV in FY03, followed by MS III decision in early FY04.

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 18 of 40)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for JHMCS	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Preliminary Design Review (PDR) AFT Seat	1Q							
Critical Design Review (CDR) AFT Seat	4Q							
Test Readiness Review (TRR) Aft Seat	1Q,4Q							
Developmental Testing Aft Seat	1Q-4Q	1Q-4Q	1Q-2Q					
Operational Testing (OT-IIB) Front Seat								
Development Test (DT) D AFT seat	1Q-4Q	1Q-2Q						
Development Test (DT) F AFT seat		3Q-4Q	1Q-2Q					
Software Delivery OFP-19C		4Q						
Follow On Test Evaluation (D Aft Seat)		2Q-3Q						
Follow On Test Evaluation (F Aft Seat)			3Q-4Q					
Software Delivery OFP-H3E				1Q				
LRIPV	2Q							
Full Rate Production Start	3Q							

R-1 SHOPPING LIST - Item No. 169

UNCLASSIFIED

Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 19 of 40)

CLASSIFICATION:

EXHIBIT R-4a, Schedule Profile																				DATE: February 2005												
APPROPRIATION/BUDGET ACTIVITY RDT&E/BA-7												PROGRAM ELEMENT 0204136N F/A-18 Squadrons												PROJECT NUMBER AND NAME 1662 F/A-18 Improvements								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
MIDS LVT F/A-18 Milestones																																
MIDS F/A-18 Production Deliveries																																
F/A-18C/D MIDS Integration																																
C/D DT&E																																
C/D OT&E																																
F/A-18 E/F MIDS Integration																																
E/F DT&E																																
E/F OT&E																																
F/A-18 MC SW Development																																
19C Software Configuration Set																																
21C SCS (SIAP Block 0) [C/D]																																
H4E SCS (SIAP Block 0) [E/F]																																
SIAP SOW Tasks																																

R-1 SHOPPING LIST - Item NO. 169

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Exhibit R-4a, Schedule Detail

Exhibit R-4a, Schedule Detail						Date: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E/BA-7	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME			
MIDS Schedule Profile	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MIDS F/A-18 Production Deliveries	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
F/A-18C/D MIDS Integration								
C/D DT&E	1Q-2Q	1Q-2Q						
C/D OT&E	3Q-4Q	2Q-4Q						
F/A-18 E/F MIDS Integration								
E/F DT&E	1Q-4Q	1Q-2Q						
E/F OT&E	3Q-4Q	1Q-4Q						
F/A-18 MC SW Development								
19C SCS		2Q-4Q						
21C SCS (SIAP Block 0) [C/D]	1Q-4Q	1Q-4Q	1Q-4Q					
H4E SCS (SIAP Block 0) [E/F]	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
SIAP SOW Tasks	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				

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Exhibit R-4, Schedule Profile
(exhibit R-4, page 21 of 40)

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**Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)**

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1662 F/A-18 Improvements	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

Instructions:

1. For all ACAT I programs with RDT&E funding, indicate the funds, by year, budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract, by year.

R-1 SHOPPING LIST - Item No.

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Exhibit R-5 Termination Liability in Major Acquisition Program RDTE Contracts
(Exhibit R-5, page 22 of 40)

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2065/RADAR UPGRADE	107.777	89.434	67.447	6.368	2.916			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program began in FY 1999. It is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, SAR imagery, SAR TLE, and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 radars by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons, significantly increasing A/A and A/G detection and tracking ranges. The AESA provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA is also more affordable than previous radars. Significant savings in operation and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 23 of 40)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade																																															
B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">73.551</td><td style="text-align: center;">56.455</td><td style="text-align: center;">38.899</td><td style="text-align: center;">6.368</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Continue EMD effort and radar cross-section assessments. Start Anti-Tamper Development in FY05 and continue through completion in FY08.</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">27.791</td><td style="text-align: center;">20.559</td><td style="text-align: center;">18.698</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Continue software development, DT, and systems integration efforts.</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">6.435</td><td style="text-align: center;">12.420</td><td style="text-align: center;">9.850</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">AESA OT&E.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	73.551	56.455	38.899	6.368	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	27.791	20.559	18.698		RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	6.435	12.420	9.850		RDT&E Articles Quantity				
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RDT&E Articles Quantity																																																	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	108.239	90.284	68.395	6.629
Current BES/President's Budget	107.777	89.434	67.447	6.368
Total Adjustments	-0.462	-0.850	-0.948	-0.261
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.831		
Congressional rescissions				
SBIR/STTR Transfer	-2.270			
Other adjustments		-0.019	-1.800	-0.365
Economic Assumptions	-0.100		0.852	0.104
Reprogrammings	1.908			
Congressional increases				
Subtotal	-0.462	-0.850	-0.948	-0.261
Schedule:				
A Low Rate Initial Production (LRIP) 4 was added during the Milestone C review in January 2004.				
- Integrated Testing & Evaluation versus Technical Evaluation/Operational Evaluation to increase efficiency and enable CONOPs development earlier. The overall Test and Evaluation schedule will complete in 3rd Quarter as previously scheduled.				
- Added H4E Build 4 with software risk associated.				
Technical:				
- Software issues ad less than planned test performance has added contractual cost and schedule pressure. Therefore, in order to deliver AESA on schedule, meeting Key Performance Parameters (KPP), non-KPP functionality has been deferred.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade		

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
(1) Line Item 3 F/A-18E/F HORNET (MYP) APN-1	84.155	110.831	151.443	127.046	105.656	86.604	113.952	73.397	0.000	853.083
(2) Line Item 27 F-18 SERIES MOD APN-5 (OSIP XX-08)					70.402	77.524	117.441	49.876	258.527	573.77

E. ACQUISITION STRATEGY:

The AESA program employs a two-phase approach with sole source contracts to Boeing, the airframe prime manufacturer. Phase I is a moderate risk reduction phase conducted in FY 1999 and FY 2000. During this phase, Boeing conducted competitive source selection at the radar system subcontract level. A BOA order for RFP development and subcontractor selection was made to conduct this effort. It includes an "845" agreement for prototype development, which includes commercial development/amortization provisions. Conducting the competition early in the program allowed for focused risk reduction and contractor investment. Phase II consisted of a typical System Demonstration program and development contract. The program transitioned to Phase II with a successful Milestone II Decision in FY 2001. When the program entered production in FY03, the "845" agreement allowed the contractor to amortize unreimbursed development costs into the production unit cost. This strategy fully utilizes acquisition reform initiatives such as: early partnering with industry; alpha contracting; leveraging industry investment; optimizing use of Commercial Off-the Shelf software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.

F. MAJOR PERFORMERS: Not required for this submission.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			2065 F/A-18 RADAR Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev (EMD)	SS/CPFF	MDA - St Louis, MO	361.746	56.395	10/04	38.859	10/05	6.368	10/06	2.916	466.284	466.284
Primary Hardware Dev (pre-EMD)	SS/CPFF	MDA - St Louis, MO	4.900								4.900	4.900
GFE	SS	MDA - St Louis, MO	3.517								3.517	3.517
Subtotal Product Development			370.163	56.395		38.859		6.368		2.916	474.701	
Remarks: The development contract has experience technical issues, resulting in cost growth to partialli mitigate this cost growth, non-KPP functionality has been deferred. The additional contract cost is being absorbed within the current prgram funding. Moving froma separate Development Testing/Operational Testing test plan to an Integrated Test and Evaluation plan has reduced Test and Evaluation costs sufficiently to absorb the contract cost growth.												
Software Development	WX	NAWCWD China Lake, CA	24.444	14.580	10/04	11.250	10/05				50.274	
Integrated Logistics Support	WX	NADEP North Island, CA	0.371								0.371	
Integrated Logistic Support	WX	NAWCAD Lakehurst, NJ	0.971	0.175	10/04	0.182	10/05				1.328	
Subtotal Support			25.786	14.755		11.432		0.000		0.000	51.973	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 27 of 40)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0204136N F/A-18 SQUADRONS			2065 F/A-18 RADAR Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD Pax River, MD	8.417	1.460	10/04	0.666	10/05				10.543	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	6.740	12.420	10/04	9.850	10/05				29.010	
Developmental Test & Evaluation	WX	NAWCWD China Lake, CA	16.913	4.344	10/04	6.600	10/05				27.857	
Subtotal T&E			32.070	18.224		17.116		0.000		0.000	67.410	
Remarks: Integrated Test and Evaluation has reduced Test and Evaluation costs to enable the program to absorb contract cost growth.												
Program Management Support	Various	NAVAIR Pax River, MD	1.652								1.652	
Travel	WX	NAVAIR Pax River, MD	0.423	0.060	10/04	0.040	10/05				0.523	
Subtotal Management			2.075	0.060		0.040		0.000		0.000	2.175	
Remarks:												
Total Cost			430.094	89.434		67.447		6.368		2.916	596.259	
Remarks:												

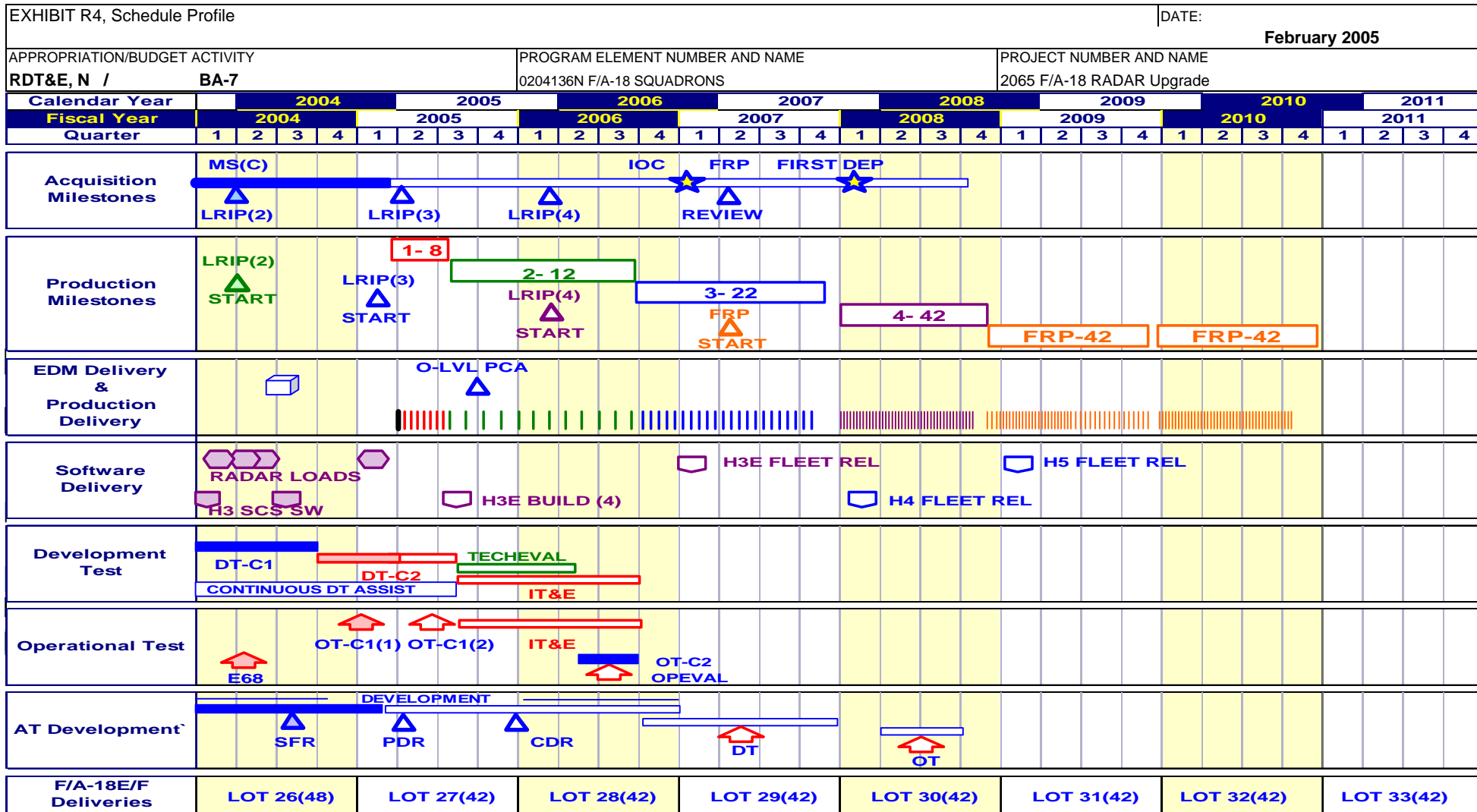
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 40)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&BA-7		0204136N F/A-18 SQUADRONS				2065 F/A-18 RADAR Upgrade		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Developmental Testing (DT-C1)	1Q-3Q							
Developmental Testing (DT-C2)	4Q	1Q-3Q						
Milestone C (MS C)	2Q							
Start Low-Rate Initial Production II	2Q							
Low-Rate Initial Production I Delivery		2Q-3Q						
Technical Evaluation (TECHEVAL)		3Q-4Q	1Q-2Q					
Operational Evaluation (OT-IIC) (OPEVAL)			2Q-3Q					
Low-Rate Initial Production II Delivery		3Q-4Q	1Q-3Q					
IOC				1Q				
Full Rate Production (FRP) Decision				2Q				
Full Rate Production Start				2Q				
First Deployment								

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 30 of 40)

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**Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)**

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2065 F/A-18 RADAR Upgrade	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

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Exhibit R-5 Termination Liability in Major Acquisition Program RDTE Contracts
(Exhibit R-5, page 31 of 40)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 9614 Military Rapid Response Command Information System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.625						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Military Rapid Response-Command and Information System (MRR CIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval TACAIR (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground C2 nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and JFCOM's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform a initial proof-of-concept demonstration , system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the SeaPower 21/ForceNet concepts above.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 9614 Military Rapid Response Command Information System																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">1.400</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Perform initial proof of concept demonstration and deliver completed analysis.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		1.400			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.400																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.225</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Provide government oversight and engineering support.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.225			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.225																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N/F/A-18 SQUADRONS	9614 Military Rapid Response Command Information System

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:		0.000	0.000	0.000
Current BES/President's Budget		1.625	0.000	0.000
Total Adjustments	0.000	1.625	0.000	0.000

Summary of Adjustments

Congressional program reductions				
Congressional undistributed reductions		-0.075		
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.700		
Subtotal	0.000	1.625	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 169

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 34 of 40)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 9614 Military Rapid Response Command Information System					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
NOT APPLICABLE										
E. ACQUISITION STRATEGY: *										
The proof of concept demonstration systems engineering and analysis will be performed by IDIQ contract with Anteon, Inc, which will be subcontracting the 95% of the tasking to Hawaiya Technologies, LLC in Hawaii.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204136N/F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 9614 Military Rapid Response Command Information System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	IDIQ	ANTEON, Cherry Hill, NJ		1.400							1.400	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	1.400		0.000		0.000		0.000	1.400	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0204136N/F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 9614 Military Rapid Response Command Information System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, Pax River, MD		0.075							0.075	
Program Management Support	WX	NAWCAD, Pax River, MD		0.115							0.115	
Travel		VARIOUS		0.035							0.035	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.225		0.000		0.000		0.000	0.225	
Remarks:												
Total Cost			0.000	1.625		0.000		0.000		0.000	1.625	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 37 of 40)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0204136N/F/A-18 SQUADRONS												9614 Military Rapid Response Command Information System											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Award																																
Design and provide analysis to define the MRRCIS architecture.																																
																</																

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 39 of 40)

Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9614 MRRCIS	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

Instructions:

1. For all ACAT I programs with RDT&E funding, indicate the funds, by year, budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract, by year.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0204152N, E-2 Squadrons			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	18.863	18.576	2.256	1.540	1.575	1.590	1.616	1.656
0463 - (E-2C Improvements)	8.546	6.000	2.256	1.540	1.575	1.590	1.616	1.656
9417 - (E-2C Program Support Activity)	* 0.962							
9418 - (E-2C Program Support Activity)	* 3.378	** 2.077						
9419 - (Non-Cooperative Combat Identification)	* 1.640	** 1.684						
9420 - (PMRF Net Centric Bed/Adv. Haw.)	* 4.337	** 5.053						
9615 - (Airborne Data Terminal Set)		** 2.772						
9616 - (Magneto Rheological Shock Engine Mount)		** 0.990						
* The FY 2004 budget reflects the following Congressional adds: \$1.0M for E-2C Program Support Activity (PSA) which has been revised by \$.011 for Congressional Undistributed Adjustments, .026 for FY 2004 SBIR adjustments and .001 for Economic Assumptions; \$3.5M for E-2C PSA (SBIR Phase III) which has been revised by \$.039 for Congressional Undistributed Adjustments, .080 for FY 2004 SBIR adjustments and .003 for Economic Assumptions; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.018 for Congressional Undistributed Adjustments, .040 for FY 2004 SBIR adjustments and .002 for Economic Assumptions; and \$4.5M for PMRF Net-Centric Test Bed/Advanced Hawkeye (AHE) Testing which has been revised by \$.050 for Congressional Undistributed Adjustments, .109 for FY 2004 SBIR adjustments and .004 for Economic Assumptions.								
**The FY 2005 budget reflects the following Congressional adds: \$2.1M for E-2C Program Support Activity (PSA)/E-2C Hawkeye Propeller Safety and Reliability which has been revised by \$.022 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.016 for Congressional Undistributed Adjustments; \$5.1M for PMRF Net-Centric Test Bed/Advanced Hawkeye (AHE) Testing which has been revised by \$.046 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; \$2.8M for Airborne Data Terminal Set which has been revised by \$.027 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; and \$1.0M for Magneto Rheological Shock Engine Mount which has been revised by \$.010 for Congressional Undistributed Adjustments.								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: E-2C Improvements provides pre-planned product improvements for the evolution of E-2C airborne warning system capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification replacement of selected weapon replaceable assemblies of current installed subsystems. The program developed a Mission Computer Upgrade (MCU), applying on-going developments in data processing and target detection, which will relieve current bottlenecks in signal and data processing. The MCU serves as a foundation for growth to provide additional functional capabilities to satisfy evolving operational requirements, e.g., Cooperative Engagement Capability (CEC), Satellite Communications (SATCOMS), and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense (TAMD) Capability as well as Airborne Battle Management and Command and Control (BMC2) capability.								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 14)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE 0204152N, E-2 Squadrons	
<p>FY2005-2011: Funding provides for evaluation of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification including specific emitter identification, multi-source integration, Airborne Battlefield Command and Control (ABC2), and Single Integrated Air Picture (SIAP) as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies, identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.</p>		

R-1 SHOPPING LIST - Item No. 170

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons			PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	[*] 18.863	^{**} 18.576	2.256	1.540	1.575	1.590	1.616	1.656
RDT&E Articles Qty								

*The FY 2004 budget reflects the following Congressional adds: \$1.0M for E-2C Program Support Activity (PSA) which has been revised by \$.011 for Congressional Undistributed Adjustments, .026 for FY 2004 SBIR adjustments and .001 for Economic Assumptions; \$3.5M for E-2C PSA (SBIR Phase III) which has been revised by \$.039 for Congressional Undistributed Adjustments, .080 for FY 2004 SBIR adjustments and .003 for Economic Assumptions; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.018 for Congressional Undistributed Adjustments, .040 for FY 2004 SBIR adjustments and .002 for Economic Assumptions; and \$4.5M for PMRF Net-Centric Test Bed/Advanced Hawkeye (AHE) Testing which has been revised by \$.050 for Congressional Undistributed Adjustments, .109 for FY 2004 SBIR adjustments and .004 for Economic Assumptions.

**The FY 2005 budget reflects the following Congressional adds: \$2.1M for E-2C Program Support Activity (PSA)/E-2C Hawkeye Propeller Safety and Reliability which has been revised by \$.022 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.016 for Congressional Undistributed Adjustments; \$5.1M for PMRF Net-Centric Test Bed/Advanced Hawkeye (AHE) Testing which has been revised by \$.046 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; \$2.8M for Airborne Data Terminal Set which has been revised by \$.027 for Congressional Undistributed Adjustments, and .001 for Nuclear Physical Scurity; and \$1.0M for Magneto Rheological Shock Engine Mount which has been revised by \$.010 for Congressional Undistributed Adjustments.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

E-2C Improvements provides pre-planned product improvements for the evolution of E-2C airborne warning system capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification replacement of selected weapon replaceable assemblies of current installed subsystems. The program developed a Mission Computer Upgrade (MCU), applying on-going developments in data processing and target detection, which will relieve current bottlenecks in signal and data processing. The MCU serves as a foundation for growth to provide additional functional capabilities to satisfy evolving operational requirements, e.g., Cooperative Engagement Capability (CEC), Satellite Communications (SATCOMS), and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense (TAMD) Capability as well as Airborne Battle Management and Command and Control (BMC2) capability.

Funding provides for evaluation of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification including specific emitter identification, multi-source integration, Airborne Battlefield Command and Control (ABC2), and Single Integrated Air Picture (SIAP) as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies, identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.850</td> <td></td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.850				RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.850																		
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Multi-Source Integration (MSI) Phase I Conducted integration and testing with updated Multi-mode Advanced Tactical Terminal (MATT) Block 3 hardware to support fleet release in FY 2005. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>1.219</td> <td>0.950</td> <td>0.950</td> <td>0.579</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.219	0.950	0.950	0.579	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.219	0.950	0.950	0.579															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Multi-Source Integration (MSI) Phase II Developed software applications to facilitate incorporation of new technologies such as MSI in existing E-2C operational Flight Program (OFP). Produced hardware-in-the-loop data sets, performance measures, and data analysis tools in support of MSI Ph II. FY 2005-2007 will fund software architecture analysis and design for incorporation of diverse applications in the E-2 Weapon System, including MSI, Combat ID, and Distributed Weapons Coordination. Fund all-source data fusion in the E-2 including radar, identification Friend or Foe (IFF), Electronic Surveillance (ES), Link 16, Link 11, and Cooperative Engagement Capability (CEC). Fund requirements analysis for development of integrated communication system architecture to support advanced sensor networking. Fund Fleet Battle Group interoperability testing and evaluation for the E-2. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.046</td> <td></td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.046				RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.046																		
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Integrated Processor Architecture Development Analyzed technology options for improving mission computer integrated processor architecture. Conducted laboratory demonstration of candidate mission computer processor solution. </div>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 4 of 14)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>2.003</td> <td>0.200</td> <td>0.200</td> <td>0.200</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Single Integrated Air Picture (SIAP) Block 0 Successfully completed Preliminary Design Review/Critical Design Review of SIAP Block 0 software implementation for fielding in 2005. Outyear funding will support testing and fielding of SIAP Block 0 software.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.003	0.200	0.200	0.200	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.003	0.200	0.200	0.200															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>3.928</td> <td>3.621</td> <td>1.106</td> <td>0.761</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Fund Airborne Battlefield Command and Control (ABC2) Conducted demonstration of High Frequency Secret Internet Protocol Router Network (HF SIPRNet) capability and VRC-99 Joint Tactical Radio System Wideband Networking Waveform Prototype waveforms. Developed E-2 RAIDER for Digital Communications Suite capability to FA-18 strike aircraft. FY 2005-2007 funding will be used to conduct demonstration on E-2 airborne Network Centric Collaborative Targeting (NCCT) capability. Conduct demonstration of the Advanced Digital Networking Systems using the HF SIPRNET and VRC-99. Conduct airborne demonstration of advanced mission computer and communications technologies. Participate in the fleet experiments such as TRIDENT WARRIOR, TALISMAN SABER, and Joint Task Force Exercise. Conduct demonstration of advanced tactical laptop capability.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.928	3.621	1.106	0.761	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.928	3.621	1.106	0.761															
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.500	1.229																	
RDT&E Articles Quantity																			

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Exhibit R-2a, RDTEN Project Justification
 (Exhibit R-2a, page 5 of 14)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.962</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Congressional Add for E-2C Program Support Activity (9417). Completed ground testing and initiated flight test of a slide lateral engine mount design to improve vibration isolation capabilities.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.962				RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.962																		
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.378	2.077																	
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.640	1.684																	
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS																	
B. Accomplishments/Planned Program (Cont.)																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.337	5.053																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">2.772</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Congressional Add for Airborne Data Terminal Set (DTS) (9615). Enhance the Advanced Hawkeye data communications capability.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		2.772			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		2.772																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.990</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Congressional Add for Magneto Rheological (MR) Shock Engine Mount (9616). Research, development and testing of an airworthy MR shock mount for the E-2C aircraft.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.990			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.990																	
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 Squadrons	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	19.331	6.055	2.155	1.579
Current BES/President's Budget	18.863	18.576	2.256	1.540
Total Adjustments	-0.468	12.521	0.101	-0.039
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.175		
Congressional rescissions				
SBIR/STTR Transfer	-0.421			
Other Adjustments		-0.004	0.062	-0.068
Economic Assumptions	-0.010		0.039	0.029
Reprogrammings	-0.037			
Congressional increases		12.700		
Subtotal	-0.468	12.521	0.101	-0.039

Schedule:

MSI PHI Deploy/AODS Deploy schedule changed due to Software System Configuration Set 05 (SCS 05) changes.

IPAD - Effort completed ahead of shedule.

ABC2 Dev - Additional effort to conduct demo of the Advanced Digital Networking System and conduct airborne demos.

MSI PHII FQT - Schedule changed due to Software System Configuration Set 07 (SCS 07) changes.

ABC2 HF SIPRNET Fleet Prototype schedule has changed due to aircraft availability.

JEFX 06 exercise has been added.

NCCT Demo name has been changed to Trident Warrior 05.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:	
								February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-7			0204152N, E-2 Squadrons			0463, E-2C IMPROVEMENTS			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-1/E-2C (LI# 14 & 15)	226.013	246.992	248.952	208.065						930.022
APN-5/E-2C (LI# 39)	49.791	15.066	13.654	9.401	9.379	8.633	8.855	9.078	495.321	619.178
APN-6/E-2C (LI# 57)	14.695	8.879	5.573	0.559						29.706

APN-1/APN-6 funding after FY07 is related to P.E. 0604234N, P.U. E3051, E-2 Advanced Hawkeye.

Related RDT&E
 (U) 0603658N (Ship Self Defense, CEC)
 (U) 0604234N Advanced Hawkeye

E. ACQUISITION STRATEGY:

Not Applicable

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204152N, E-2 Squadrons			0463, E-2C IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev - MCU	SS/CPIF	NGC, NY/FL	157.760								157.760	157.760
Primary Hardware Dev - CEC	SS/CPFF	NGC, NY/FL	293.293								293.293	293.293
Primary Hardware Dev.	Various	Various	5.765								5.765	
Primary Hardware Mod - ICR	SS/CPFF	NGC, NY/FL	1.766								1.766	1.766
Primary Hardware	Various	Various	1.348								1.348	
Primary Hardware - SEI	SS/CPFF	NGS, NY	7.638								7.638	7.638
Primary Hardware - MSI	Various	Various	1.467								1.467	
											0.000	
Primary Hardware - ABC2	Various	Various	1.367	1.800	10/04	0.701	10/05	0.361	10/06		4.229	
											0.000	
Primary Hardware - AODS	TBD	Lockheed Martin		0.600	10/04						0.600	0.600
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 10 of 14)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0204152N, E-2 Squadrons				PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Government Eng Spt - Various	WX/RC	NAWCAD, Pax River, MD	75.578	1.073	10/04	0.405	10/05	0.200	10/06	Continuing	Continuing		
Government Eng Spt - ASA/UESA	C/CPFF	Classified	5.661								5.661	5.661	
Government Eng Spt	Various	Various	2.514								2.514		
Government Eng Spt	SS/CPFF	NGC, NY	2.301								2.301	2.301	
Government Eng Spt - Air Missile/BLR	C/CPFF		1.020								1.020	1.020	
Governemnt Eng Spt - SIAP	Various	Various	2.205	0.200	01/05	0.200	01/06	0.200	01/07	Continuing	Continuing		
Development Support	WX	NAWCWD, China Lake, CA	0.200								0.200		
Studies & Analyses - IPAD	C/CPFF		0.048								0.048	0.048	
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Subtotal Support			89.527	1.273		0.605		0.400		Continuing	Continuing		
Remarks:													

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 11 of 14)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0204152N, E-2 Squadrons			0463, E-2C IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental T&E - Various	WX	NAWCAD, Pax River MD	92.580	1.639	11/04	0.400	11/05	0.229	11/06	Continuing	Continuing	
Operational T&E ACIS (PMS-440)	PD	NAVSEA	2.483								2.483	
Dev T&E	Various	Various	4.112								4.112	
Dev T&E MCU	WX/RX	PMRF, HI	1.500								1.500	
											0.000	
											0.000	
											0.000	
Subtotal T&E			100.675	1.639		0.400		0.229		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX/RX	NAWCAD, Pax River MD	1.968	0.628	11/04	0.500	11/05	0.500	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River MD	0.197	0.060	11/04	0.050	11/05	0.050	11/06	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			2.165	0.688		0.550		0.550		Continuing	Continuing	
Remarks:												
Total Cost			662.771	6.000		2.256		1.540		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 12 of 14)

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* Not required for Budget Activities 1, 2, 3, and 6

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 13 of 14)

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CLASSIFICATION:

[illegible]

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 14 of 14)

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				R-1 ITEM NOMENCLATURE PE: 0204163N TITLE: FLEET TELECOMMUNICATIONS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	22.177	22.874	32.694	26.674	23.329	17.450	17.728	18.051
0725 Communications Automation	3.046	2.033	16.045	13.048	12.272	6.725	6.810	6.880
1083 Shore to Ship Communications	11.607	17.482	16.649	13.626	11.057	10.725	10.918	11.171
0795 Support of MEECN	0.782	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)	6.742	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9620 Floating Area Network	0.000	0.991	0.000	0.000	0.000	0.000	0.000	0.000
9619 MRC-105 EMERGENCY RADIO		0.991						
9618 Programmable Integrated Communications Terminals (PICT)		1.377						
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. It includes Tactical Messaging (formerly Naval Modular Automated Communications System/Single Messaging Solution II (NAVMACS/SMSII), Joint Network Management System (JNMS), Automated Digital Network System (ADNS), Naval Global Directory Services, and Shore Infrastructure Modernization (SIM).</p> <p>In FY 04 the Program of Record name changed to Tactical Messaging in order to better depict the latest technology capabilities under development. As in previous years, Tactical Messaging (formerly NAVMACS/SMSII) developed joint/combined individual and organizational message handling for US Naval ships and submarines, United States Marine Corp (USMC) vans, and selected Military Sealift Command (MSC) and United States Coast Guard (USCG) platforms. Tactical Messaging (NAVMACS II/SMS) develops fleet interfaces to Defense Messaging System (DMS) and legacy ashore messaging systems.</p> <p>The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security.</p> <p>Naval Global Directory Service (NGDS): The NGDS will develop a directory services architecture providing enhancements and efficiencies for security, application accessibility, and naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), Base Level Information Infrastructure (BLII), and Naval Afloat Networks/IT-21 network domains.</p> <p>The NGDS builds upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet's (NMCI) directory service, Navy Marine Corps Portal (NMCP) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service and supporting Unified Account Management (UAM) product. The projected NGDS capabilities include: Authentication to enterprise applications; Support for an enterprise SSO solution; Domain Naming Service (DNS) for a Naval Enterprise network De-Militarized Zone (DMZ); Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic "Locator" services; Additional advanced directory or identity based functions.</p> <p>NGDS delivers an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS must manage and maintain these relationships regardless of the user's or services location.</p> <p>Congressional plus-up to support to development a Floating Area Network (FAN) plan and architecture to enabling a direct Line of Sight (LOS), wireless, TCP/IP network among intra-battle group ships.</p>								

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7		PE: 0204163N TITLE: FLEET TELECOMMUNICATIONS	
<p>Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes COTS/GOTS equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment I provides initial limited, Ship to Shore IP connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to tactical Shore IP connectivity. ADNS Increment II provides additional capabilities of Load Balancing, RF Restoral, Initial QoS, Initial Traffic Management, increase data throughput, and has been demonstrated as part of the FORCEnet IPD. ADNS Increment III will provide a converged Voice, Video, and Data Solution with additional capabilities such as IPv6 and VoIP. ADNS Increment IV will support Transformational Communications with additional capabilities of Black Core Routing and JTRS compatability.</p> <p>The Tactical Switching Shore Infrastructure Modernization (SIM) program rebuilds 1970's based shore high frequency based infrastructure to current and future scalable technical standards in order to provide a commercially standardized, technically compliant, and robust network. Shore Infrastructure Modernization will migrate the shore sites and their terrestrial interconnections into a coherent, scalable, network-centric capability. While leveraging off recent shore upgrades for the major shore communication regions, Shore Infrastructure Modernization will incorporate a system integrator approach to develop, design, and implement a plan to remove bandwidth limitations, create redundant communications paths, provide secure and available communications, provide dynamic bandwidth management, and reduce costly dependencies on legacy systems. This plan will be designed to increase efficiencies, and reduce manpower and the overall footprint of the Navy's shore sites. SIM will bring new technologies and capabilities that converge legacy, circuit-based, communications to a standard, integrated, and interoperable IP network. This enabling system, of which FORCEnet is a part, supports the four pillars of Sea Power 21 by providing the infrastructure required to support collaborative decision-making, faster decision cycles, and shared superior situational awareness required to fight the War on Terrorism.</p> <p>The Shore to Ship Communications System develops communications systems elements which provide positive command and control of deployed ballistic missile submarines (SSBNs), guided missile submarines (SSGNs) and attack submarines (SSNs). Provides the communication elements for continuous assessment of the command and control link between Secretary of Defense and missile platforms. Provides the joint system design for Emergency Action Message (EAM) distribution to all nuclear platforms. Provides the tools for strategic command and control planning to deployed SSBNs including shore infrastructure.</p> <p>Low Band Universal Communications System (LBUCS) provides operational capability, through the Very Low Frequency architecture, to insure system life extension and greater flexibility of Submarine Broadcast traffic to the submarine in stealth posture. The increased flexibility includes greater bandwidth efficiency, ensuring more operational products are delivered to a submarine without risking mast exposure.</p> <p>The shore Submarine Operating Authority (SUBOPAETH) was downsized from six to four nodes. In order to ensure Continuity of Operations (COOP) and ongoing robustness in a reduced architecture, the SUBOPAETH architecture provides for increased commonality among SUBOPAETHs. This ensures robust operation, improved integration between Submarine Operational Control and support communications, and Continuity of Operations in the event of a SUBOPAETH casualty.</p> <p>The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was moved to PEO C4I & Space, PMW 176 from the United States Air Force starting in FY04 to better meet the requirements, deadlines, and funding priorities established for the project.</p> <p>Congressional plus-up to support development of MRC-105 Emergency Radio.</p>			

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7	R-1 ITEM NOMENCLATURE PE: 0204163N TITLE: FLEET TELECOMMUNICATIONS	
<p>Project 9618: Programmable Integrated Communication Terminals (PICTs):</p> <p>Provides a new design that offers additional benefits to enable the warfighters with the ability to change radio frequencies remotely via the Programmable Integrated Communication Terminals (PICTs) using the Digital Modular Radio (DMR)/Joint Tactical Radio System (JTRS).</p> <p>Integration of the telephone and external communications systems is vital to the timely exchange of information among warfighters aboard ship and prevents unnecessary interoperability problems. The Navy is currently accomplishing the integration of the internal and external communication systems with the Programmable Integrated Communication Terminals (PICTs).</p> <p>The PICT is the standard, integrated communications terminal used with the Integrated Voice Network (IVN) on amphibious, carriers and other critical weapons platforms. Its function is to provide the warfighter reliable access to all shipboard communications systems as well as secure and non-secure tactical communications channels.</p> <p>In support of voice communications, the PICT is also filling the need for control of radio channels and encryption equipment. Ongoing PICT design development is enabling the Navy's migration to software-defined radios by providing human machine interface for the digital modular radio (DMR), designed to work with the Joint Tactical Radio System (JTRS). Operator positions will become multi-functional and give the operator the ability to adapt to various operational scenarios with access to multiple communications circuits through a single terminal. This capability is needed to enable Naval Forces to interoperate with other US Services.</p> <p>The PICT upgrade would also allow environmental testing and information assurance testing to ensure the unit and system can meet certification requirements.</p>		

CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N TITLE: FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 0725 Communications Automation			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		3.046	2.033	16.045	13.048	12.272	6.725	6.810	6.880
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. Tactical Messaging, formerly The Naval Modular Automated Communications System II (NAVMACS II/Single Messaging Solution (SMS) is the network centric Internet Protocol (IP) solution for the processing, storage, distribution and forwarding of General Service and Defense Messaging System (DMS) organizational messages to the user's desktop throughout the IT-21 Local Area Network (LAN)/Wide Area Network (WAN). The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with the Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security. Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes COTS/GOTS equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment I provides initial limited, Ship to Shore IP connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to tactical Shore IP connectivity. ADNS Increment II provides additional capabilities of Load Balancing, RF Restoral, Initial QoS, Initial Traffic Management, increase data throughput, and has been demonstrated as part of the FORCEnet Integrated Product Demonstration (IPD). ADNS Increment III will provide a converged Voice, Video, and Data Solution with additional capabilities such as Internet Protocol version 6 (IPv6) and Voice over Internet Protocol (VoIP). ADNS Increment IV will support Transformational Communications with additional capabilities of Black Core Routing and Joint Tactical Radio Systems (JTRS) compatability. Naval Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations to include, but not limited to, Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile, and Application Management; PKI-enablement of applications/devices; and Network Management. Naval Global Directory Service (NGDS): The NGDS will develop a directory services architecture providing enhancements and efficiencies for security, application accessibility, and naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), Base Level Information Infrastructure (BLII), and Naval Afloat Networks/IT-21 network domains. The NGDS builds upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet's (NMCI) directory service, Navy Marine Corps Portal (NMCP) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service and supporting Unified Account Management (UAM) product. The projected NGDS capabilities include: Authentication to enterprise applications; Support for an enterprise SSO solution; Domain Naming Service (DNS) for a Naval Enterprise network De-Militarized Zone (DMZ); Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic "Locator" services; Additional advanced directory or identity based functions. NGDS delivers an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS must manage and maintain these relationships regardless of the user's or services location. Tactical Switching Ashore will support the migration of the shore sites and their terrestrial interconnections into a coherent, scalable, network capability.</p>									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 0725 Communications Automation		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Automated Digital Network (ADNS)	0.357	0.419	6.432	4.372
RDT&E Articles Quantity				
<p>FY04: Continued development of converged voice, video and data capability within ADNS. Continued analysis of VoIP alternatives. Demonstrated VoIP capability as part of FORCEnet and Trident Warrior series demonstrations. Developed advanced methods to implement prioritization of data using message traffic precedence, dynamic bandwidth management, and asymmetrical operations under Emission Control (EMCON) conditions. Analyzed and tested line of sight (LOS) and airborne networking. Devised solutions for Allied and coalition interoperability. Coordinated with JITC and OPTEVFOR for planning of interoperability testing and operational testing for ADNS Increment I.</p> <p>FY05: Planning and conducting interoperability and operational testing for ADNS Increment I and Increment II. Develop advanced traffic management and control and Quality of Service (QoS) capabilities. Demonstrate dynamic routing scheme. Continue support of FORCEnet demonstrations (Trident Warrior series).</p> <p>FY06: Complete Increment II Operational Testing. Award contract for system development and demonstration for Increment III. Increment III will provide converged voice, video, and data; increased bandwidth utilization; increased capability for traffic management; and Internet Protocol version 6 capability. During the System Development and Demonstration phase the contractor will conduct system requirements review and deliver an ADNS Increment III system and subsystem specification.</p> <p>FY07: Continue the system development and demonstration phase of ADNS Increment III. Conduct system Preliminary Design Review. Develop and update system and subsystem design documentation.</p>				
	FY 04	FY 05	FY 06	FY 07
Tactical Messaging (NAVMACS)	1.240	1.186	1.149	1.522
RDT&E Articles Quantity				
<p>FY04: FY04 Developed and tested Windows 2000 migration. Initiated development and testing of emerging technology and product upgrades such as DMS 3.1(Maintenance Release 2 (MR2)), DMS/ISNS co-host for bandwidth advantaged platforms,ISDS software for IP broadcast , Web based solutions, and COTS SW/HW refresh for all enclaves and USN platforms. Supported DICE '04 Joint Operational Testing.</p> <p>FY05: Continue development and test efforts for emerging technology and product upgrades such as COTS SW/HW refresh for all enclaves and USN platforms. Conduct DMS 3.1 Operational Assessment. Continue development of DMS/ISNS co-host for bandwidth advantaged platforms. Support end to end testing of IP broadcast.</p> <p>FY06: Continue development and test efforts for emerging technology and product upgrades. Initiate development of way-ahead messaging for bandwidth disadvantaged platforms to include AMHS. Conduct operational testing for the DMS/ISNS co-host messaging solution.</p> <p>FY07: Continue development and test efforts for emerging technology and product upgrades. Conduct development test of AMHS/Proxy messaging solution. Initiate way-ahead messaging solution for CJTF and bandwidth advantaged platforms.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 0725 Communications Automation		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Global Directory Services	1.115	0.428	0.414	0.394
RDT&E Articles Quantity				
<p>FY04: Continued the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assisted in convergence of NMCI, BLII, and IT-21 environments. Provided an infrastructure for the development and integration of new Navy Marine Corps portal functionality. Provided developmental engineering support for new network functionality within the shipboard environment including Unified Account Management (UAM) capability, Enterprise White Pages (EWP), and Naval Network Identity (NNI).</p> <p>FY05: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, BLII, and IT-21 environments. Provide developmental engineering support for ship-to-shore communications and data sharing. Support Navy directed testing efforts.</p> <p>FY06: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, BLII, and IT-21 environments. Continue with developmental engineering support for ship-to-shore communications and data sharing.</p> <p>FY07: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, BLII, and IT-21 environments.</p>				
	FY 04	FY 05	FY 06	FY 07
Joint Network Management System (JNMS)	0.334	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>FY04: Supported development and operational testing of JNMS. Tested systems at JFCOM. Completed Navy-specific conops. Continued testing interface with Navy-specific network management tools.</p>				
	FY 04	FY 05	FY 06	FY 07
Tactical Switching (Ashore)	0.000	0.000	8.050	6.760
RDT&E Articles Quantity				
<p>FY06: Initiate the development of Phase 2A. Task a system integrator to develop a modern shore communications architecture to include consolidating communications technical control facilities, migrating all IP services to DoD Teleport and Global Information Grid-Bandwidth Expansion (GIG-BE), providing a direct connection between the shore based/fixed site messaging system and Fleet SIPRNET Messaging (FSM), and substantially increasing messaging throughput, providing a plan to implement Enterprise Management and Control, and implementing a common timing and frequency synchronization standard (eliminating the multitude of legacy timing schemes) for all Navy shore communication stations. Efforts will take design process through Preliminary Design Review for Phase 2A.</p> <p>FY07: Complete design of the Phase 2A Tactical Switching Ashore architecture and initiate and complete the development of the Phase 2B Tactical Switching Ashore architecture and implementation plan to include the Enterprise Management and Control system. Critical Design Review for Phase 2A and Preliminary Design Review and Critical Design Review for Phase 2B. Begin system-of-systems testing.</p>				

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CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N BA 7	PE: 0204163N FLEET TELECOMMUNICATIONS		0725 Communications Automation	
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2006 President's Budget	3.195	2.080	2.112	2.690
FY2005 President's Budget	3.046	2.033	16.045	13.048
Total Adjustments	(0.149)	(0.047)	13.933	10.358
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.047		
Reprogrammings	-0.113			
Programmatic Adjustments			13.802	10.209
Economic Assumptions			0.129	0.141
Pricing Adjustments			0.002	0.008
SBIR/STTR Transfers	-0.036			
Subtotal	-0.149	-0.047	13.933	10.358
 (U) Schedule:				
Not Applicable				
 (U) Technical:				
Not Applicable				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS			PROJECT NUMBER AND NAME 0725 Communications Automation				

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
3050 – Comm Auto - NAVMACS	7.275	10.454	11.759	9.710	10.438	11.466	11.371	3.967	Continuing	Continuing
3050 – Comm Auto – JNMS	5.753	1.387	1.676	0.950						
3050 – Comm Auto – ADNS	18.884	42.218	24.231	21.055	48.625	39.668	30.289	41.161	Continuing	Continuing
3050 – Comm Auto – Tactical Switching (Ashore)			39.143	39.834	34.039	33.654	26.407	23.511	Continuing	Continuing

(U) E. ACQUISITION STRATEGY: *

ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for differing incremental baselines. Use existing competitively awarded contracts during the initial production phase with plans to introduce innovative contract types that implement changes consistent with acquisition streamlining initiatives. Aggressively leverage COTS products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Employ many types of advantageous contract vehicles which provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

Tactical Messaging (formaly NAVMACS): The Tactical Messaging acquisition approach has evolved according to key technology advances, resulting incremental developmental phases, and the principals of acquisition reform. While initial production units were acquired through competitively awarded vehicles, future contracting will also embrace acquisiton streamling initiatives in addition to maintaining the benefits of competitive, best value contracting.

-JNMS provides an automated software system including capabilities for planning and engineering , monitoring, control and reconfigurations, spectrum management and security .

-NGDS supports a variety of network operations that include Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile and Application Management; PKI-enablement of applications/devices, and Network Management. All management oversight by SPAWAR.

-Tactical Switching Ashore Evolutionary acquisition approach with overlapping development and implementation phases. Use existing contract vehicles during Phase One implementation of procurement upgrades to exisiting shore legacy equipment at the major communication centers (NCTAMS PAC, NCTAMS LANT, NCTAMS EURCENT, NCTS Bahrain, and NCTS San Diego) and to include 40+ shore communication facilities (COMSTATIONS, NOCs, Mini-NOCs, and STEP sites). Phase One upgrades serve as an enabler to Phase Two activities. Based upon the future shore communication architecture as defined by the Navy, Phase Two transitions the Navy's shore infrastructure to the GNOSC concept to achieve a Joint/DoD Net-Centric environment. Phase 2 will be organized into three steps. Each step will build upon the previous step and serve as risk mitigation for the succeeding step. This strategy provides flexibility in a rapidly evolving technology environment and allows earlier implementation of developmental technology as it becomes available.

*** Not required for Budget Activities 1,2,3, and 6**

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			PE: 0204163N FLEET TELECOMMUNICATIONS				0725 Communications Automation					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	PO	SSC	2.825								2.825	0.000
Primary Hardware Development	TBD	TBD		0.000		1.000	TBD	1.000	TBD	Continuing	Continuing	0.000
Systems Engineering	PO	SSC	9.176	0.240	Dec-04	0.246	TBD	0.405	TBD	Continuing	Continuing	0.000
Systems Engineering	CPAF	VAR	0.468			5.550	Jun-06	5.707	Jun-07	Continuing	Continuing	0.000
Systems Engineering	TBD	TBD		0.000		2.502	TBD	0.955	TBD	Continuing	Continuing	0.000
Prime Mission Product	PO	SSC	3.548	0.438	Dec-04	0.387	TBD	0.662	TBD	Continuing	Continuing	0.000
Subtotal Product Development			16.017	0.678		9.685		8.729		0.000	35.109	0.000
Remarks:												
Development Support	WX	SSC				0.160	TBD	0.160	TBD		0.320	0.000
Software Development	Var	Various	4.215	0.394	Dec-04	0.917	TBD	0.866	TBD	Continuing	Continuing	0.000
Integrated Logistics Support	TBD	TBD				1.000	TBD	0.900	TBD		1.900	0.000
Documentation	TBD	TBD		0.280							0.280	0.000
Technical Data	TBD	TBD				0.500	TBD	0.500	TBD		1.000	0.000
Studies and Analysis	TBD	TBD				0.250	TBD	0.250	TBD		0.500	0.000
Subtotal Support			4.215	0.674		2.827	TBD	2.676	TBD	Continuing	Continuing	0.000
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 0725 Communications Automation					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC		0.063	TBD	0.090	TBD	0.015		Continuing	Continuing	0.000
Operational Test & Evaluation	VAR	VAR	3.882	0.117	Dec-04	0.135	TBD	0.017		Continuing	Continuing	0.000
Operational Test & Evaluation	MIPR	OPTEVFOR	0.315								0.315	0.000
Operational Test & Evaluation	VAR	VAR	0.350								0.350	0.000
Subtotal T&E			4.547	0.180		0.225		0.032		Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support	VAR	VAR	0.246	0.075	Dec-04	0.991	Jun-06	0.425	Jun-07	Continuing	Continuing	0.000
Government Engineering Support	WX	SSC		0.044	Dec-04	0.041	Dec-05	0.041	Dec-06			
Program Management Support	VAR	SSC	1.704	0.131	Dec-04	1.256	VAR	0.653	VAR	Continuing	Continuing	0.000
Program Management Support	VAR	VAR	1.263	0.251	Dec-04	1.020	Jun-06	0.492	Jun-07	Continuing	Continuing	0.000
Subtotal Management			3.213	0.501		3.308		1.611		Continuing	Continuing	0.000
Remarks:												
Total Cost			27.992	2.033		16.045		13.048		Continuing	Continuing	0.000
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																		DATE:				February 2005											
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME															
RDT&E, N / BA-7									PE: 0204163N FLEET TELECOMMUNICATIONS									0725 Communications Automation/ADNS															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones																																	
Proto Type Phase	Proto Type Phase								Proto Type Phase								Proto Type Phase																
System Development	CDR Incr 1	SDR Incr 2	PDR Incr 2	CDR Incr 2									SDR Incr 3	PDR Incr 3			CDR Incr 3			SDR Incr 4	PDR Incr 4			CDR Incr 4									
Test & Evaluation Milestones																																	
Development Test																																	
Operational Test																																	
Deliveries																																	

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* Not required for Budget Activities 1, 2, 3, and 6

1. Initial OPEVAL Q2, 01. Subsequent discussions between OPNAV, COTF, and Program Office agreed the submarine variant of ADNS required additional Operational testing.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	PE: 0204163N FLEET TELECOMMUNICATIONS				0725 Communications Automation/ADNS			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
INCREMENT I								
SUBMARINE R-4 #1								
Prototype Phase								
System Design Review (SDR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
IOC								
Developmental Testing (DT)		3Q						
Operational Testing (OT)		4Q						
INCREMENT II								
Initial Traffic Management, Shore (TMS) R-4 #2								
Prototype Phase	1-4Q							
System Design Review (SDR)	2Q							
Preliminary Design Review (PDR)	3Q							
System Development	2-4Q							
Critical Design Review (CDR)	4Q							
IOC		2Q						
Developmental Testing (DT)		3Q						
Operational Testing (OT)			1Q					
Initial QOS (IQOS) R-4 #2								
Prototype Phase	1-4Q							
System Design Review (SDR)	2Q							
Preliminary Design Review (PDR)	3Q							
System Development	2-4Q							
Critical Design Review (CDR)	4Q							
IOC		2Q						
Developmental Testing (DT)		3Q						
Operational Testing (OT)			1Q					
INCREMENT III								
Voice Over IP (VOIP) R-4 #3								
Prototype Phase			2Q-4Q	1Q				
System Design Review (SDR)				1Q				
Preliminary Design Review (PDR)				3Q				
System Development				1Q-4Q	1Q-2Q			
Critical Design Review (CDR)					2Q			
IOC						1Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)						4Q		

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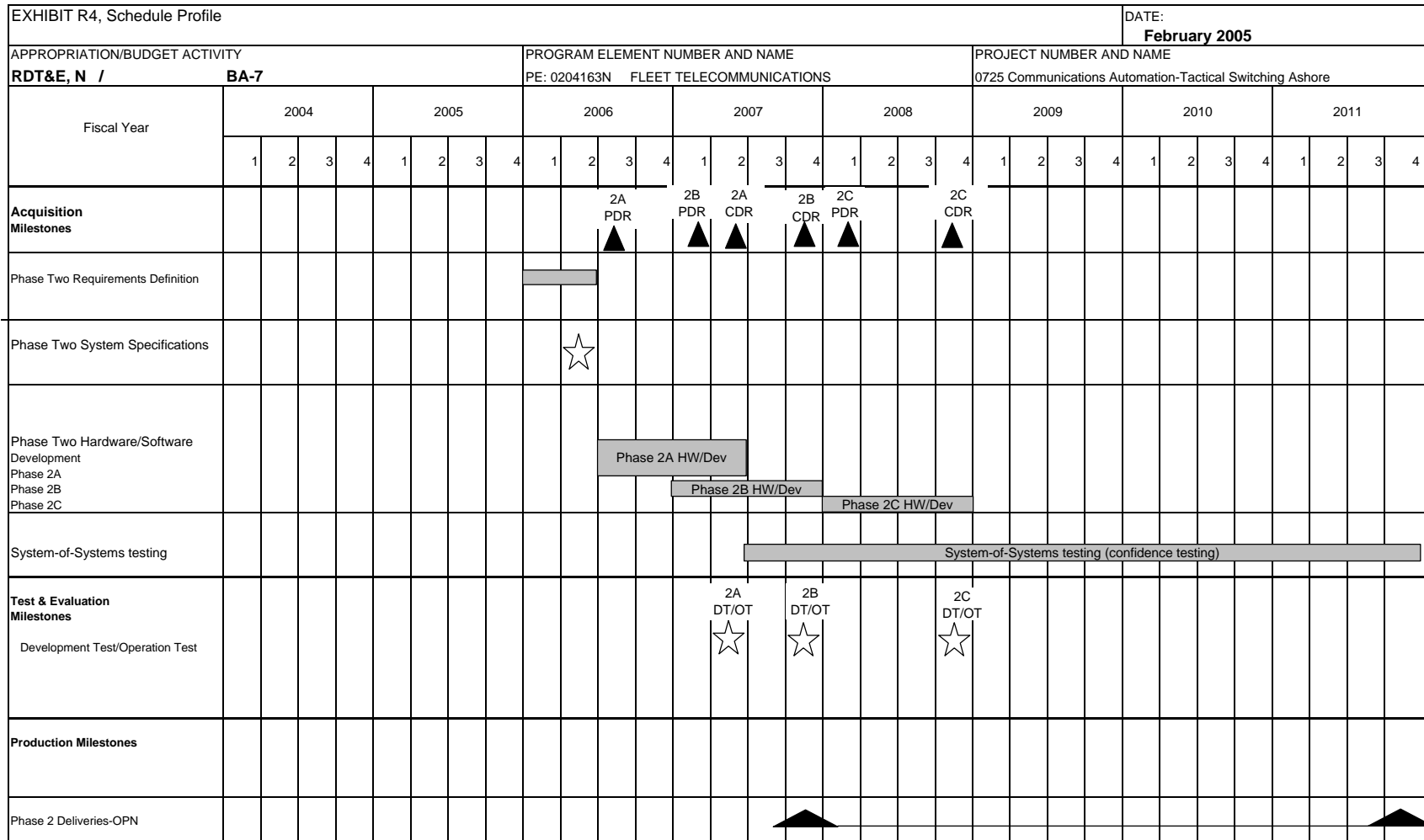
CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	PE: 0204163N FLEET TELECOMMUNICATIONS				0725 Communications Automation/ADNS			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
<i>Advanced QOS (AQOS) R-4 #3</i>								
Prototype Phase			2Q-4Q	1Q				
System Design Review (SDR)				1Q				
Preliminary Design Review (PDR)				3Q				
System Development				1Q-4Q	1Q-2Q			
Critical Design Review (CDR)					2Q			
IOC						1Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)						4Q		
<i>Advanced Traffic Management (ADVTM) R-4 #2</i>								
Prototype Phase			2Q-4Q	1Q				
System Design Review (SDR)				1Q				
Preliminary Design Review (PDR)				3Q				
System Development				1Q-4Q	1Q-2Q			
Critical Design Review (CDR)					2Q			
IOC						1Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)						4Q		
<i>IPv6 (IPv6)</i>								
Prototype Phase			2Q-4Q	1Q				
System Design Review (SDR)				1Q				
Preliminary Design Review (PDR)				3Q				
System Development				1Q-4Q	1Q-2Q			
Critical Design Review (CDR)					2Q			
IOC						1Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)						4Q		
INCREMENT IV								
<i>Black Routing (BR)</i>								
Prototype Phase					2Q-4Q	1Q		
System Design Review (SDR)						1Q		
Preliminary Design Review (PDR)						3Q		
System Development						1Q-4Q	1Q-2Q	
Critical Design Review (CDR)							2Q	
IOC								1Q
Developmental Testing (DT)								3Q
Operational Testing (OT)								4Q
<i>JTRS Integration (JTRSI)</i>								
Prototype Phase					2Q-4Q	1Q		
System Design Review (SDR)						1Q		
Preliminary Design Review (PDR)						3Q		
System Development						1Q-4Q	1Q-2Q	
Critical Design Review (CDR)							2Q	
IOC								1Q
Developmental Testing (DT)								3Q
Operational Testing (OT)								4Q
<i>Transformational Communications (TC)</i>								
Prototype Phase					2Q-4Q	1Q		
System Design Review (SDR)						1Q		
Preliminary Design Review (PDR)						3Q		
System Development						3Q-4Q	1Q-2Q	
Critical Design Review (CDR)							2Q	
IOC								1Q
Developmental Testing (DT)								3Q
Operational Testing (OT)								4Q

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Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N BA-7	PE: 0204163N FLEET TELECOMMUNICATIONS				0725 Communications Auto-Tactical Switching Ashore			
Schedule Profile - Tactical Switching Ashore	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Preliminary Design Review (PDR) Phase IIA			3Q					
Preliminary Design Review (PDR) Phase IIB				1Q				
Preliminary Design Review (PDR) Phase IIC					1Q			
Critical Design Review (CDR) Phase IIA				2Q				
Critical Design Review (CDR) Phase IIB				4Q				
Critical Design Review (CDR) Phase IIC					4Q			
Phase II Requirements Definition			1Q-2Q					
Phase II System Specifications			2Q					
Hardware/Software Development Phase IIA			3Q-4Q	1Q-2Q				
Hardware/Software Development Phase IIB				1Q-4Q				
Hardware/Software Development Phase IIC					1Q-4Q			
System-of-Systems Testing				3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Development Test/Operation Test (DT/OT) Phase IIA				2Q				
Development Test/Operation Test (DT/OT) Phase IIB				4Q				
Development Test/Operation Test (DT/OT) Phase IIC					4Q			
Deliveries - OPN				4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 15 of 43)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																											DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-7												PE: 0204163N FLEET TELECOMMUNICATIONS												0725 Communications Automation/Tactical Messaging												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
Program Milestones														△	IOC																					
Pilot Phase		IP Broadcast				AMHS								WAY-AHEAD MESSAGING PILOT																						
Development		DSE				WIN2K/DMS 3.1				AMHS INTEGRATION					WAY-AHEAD MESSAGING																					
						ISNS/DMS CO-HOST																														
In-Progress Review (Multiple Baselines)	△	IPR			△	IPR			△	IPR			△	IPR			△	IPR			△	IPR			△	IPR			△	IPR						
S/W Delivery			△	LAB	△	JITC				△	LAB		△	JITC			△	LAB		△	JITC			△	LAB		△	JITC								
							△	LAB			△	JITC																								
Software																																				
S/W Delivery 2.3	△																																			
S/W Delivery 2.4						△																														
S/W Delivery 2.5							△																													
S/W Delivery DMS 3.1					△								△																							
S/W Delivery ISNS/DMS												△																								
S/W Delivery AMHS												△																								
S/W Delivery Way-Ahead SW																										△										
DISA DMS MR Delivery				△					△				△				△				△				△			△								
Test & Evaluation Milestones																																				
Development Test	JIC/DS E CERT																																			
Operational Test																																				
JITC IV&V Certification																																				
Deliveries			14				9				21				58			47				49				54			9							

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 16 of 43)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 0725 Communications Automation/Tactical Messaging			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
IOC				1Q					
DSE	1Q-2Q								
Win2K/DMS Afloat 3.1	2Q-4Q	1Q-2Q							
IP Broadcast	1Q-4Q								
ISNS / DMS CO-HOST	3Q-4Q	1Q-4Q	1Q-2Q						
AMHS Integration		1Q-4Q	1Q-2Q						
Way-Ahead CJTF Messaging				1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q		
IPR	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q
EMD - Lab	3Q	4Q			1Q	3Q			
EMD - JITC	4Q		2Q		3Q		1Q		
S/W Delivery 2.3	1Q-2Q								
S/W Delivery 2.4		2Q							
S/W Delivery 2.5		3Q							
S/W Delivery DMS 3.1		1Q							
S/W Delivery ISNS/DMS			2Q						
S/W Delivery AMHS			2Q						
S/W Delivery Way-Ahead							2Q		
DISA DMS MR	4Q	4Q	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Development Test	1Q-4Q	3Q-4Q	1Q-2Q		1Q-4Q	2Q-4Q	1Q		
Operational Assessment/Test		1Q-2Q	2Q-3Q				2Q-4Q		
JITC IV&V Certification	1Q-4Q	1Q-4Q	1Q-3Q		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Deliveries	14	9	21	58	47	49	54	9	

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CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: Feb-2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 1083 Shore to Ship Communications		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		11.607	17.482	16.649	13.626	11.057	10.725	10.918
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This project develops communication system elements that provide positive command and control of deployed ballistic missile submarines (SSBNs) and fleet submarine broadcast connectivity to SSNs, SSGNs and SSBNs. This project provides enhancements to the shore-to-ship transmitting systems and provides submarine capabilities to the Broadcast Control Authority (BCA) consistent with the Network Operation Center (NOC) architecture. The BCA provides the oversight and control for all fixed submarine broadcasts. Effective utilization of this communications system's performance is provided via the Strategic Communications Assessment Program (SCAP). The Continued Evaluation Program (CEP) provides constant assessment of the effectiveness of the end-to-end network. The Submarine Operating Authority (SUBOPAUTH) includes both Submarine Communications and Operational Control (OPCON) at shore sites. A SUBOPAUTH architecture provides for back-up capability among the four BCA/OPCONs to ensure Continuity of Operations (COOP) in the event of a BCA outage. The Common Submarine Radio Room (CSRR) integrates COTS and GOTS components into a single radio room configuration for all classes of submarines. The CSRR design is based on the Virginia class radio room and is adapted for each platform's hull shape and mission needs. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed VLF (FVLF) transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). The Nuclear Command, Control and Communications Long Term Solution (NC3 LTS) (formerly EAM 2010) will provide a communications approach in support of the Joint Operational Architecture (JOA) for time-critical Emergency Action Messages (EAMs) to be disseminated across Areas of Responsibility (AOR's) in support of Joint operations. This project implements the Joint Staff EAM Board of Directors (BoD) direction for a viable long-term EAM dissemination solution (NC3 LTS) and that near term enhancements enable the interim hybrid solution to have an infrastructure to allow life sustainment until a replacement system comes on-line. Low Band Universal Communications System (LBUCS) provides operational capability, through the Very Low Frequency architecture, to insure system life extension and greater flexibility of Submarine Broadcast traffic to the submarine in stealth posture. The increased flexibility includes enhanced throughput, ensuring more operational products are delivered to a submarine without risking mast exposure. The Submarine Enhanced Emergency Alert System (SEEAS) replaces the AN/BST-1 transmitter buoy used to communicate "in extremis" messages to the Fleet Commander from an SSBN on patrol that had been rendered incapable of performing its mission either by hostile action or by a casualty.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: Feb-2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 1083 Shore to Ship Communications		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
High Voltage Improvement Program	0.350	0.431	0.448	0.438
RDT&E Articles Quantity				
<p>FY04: Completed testing of system to detect onset of corona breakdown which provided a heightened protection to present day carrier cutoff systems at FVLF sites. Completed development of electrically small antennas for VLF/LF transmit applications. Began investigation of methods for providing additional high voltage performance margin for helix house exit bushings and guy/top hat insulators. FY05: Complete development of remote corona monitoring/sensing system capability for FVLF sites. Complete investigation on helix house bushings and guy insulators. Begin the investigation into new materials for sustained long term operation in high electromagnetic fields. FY06: Complete investigation into new materials for sustained long term operation in high electromagnetic fields. Begin examination of ultra quick cut off devices to prevent overload conditions. FY07: Complete examination of ultra quick cut off devices to prevent overload conditions.</p>				
	FY 04	FY 05	FY 06	FY 07
Common Submarine Radio Room (CSRR)	0.900	0.925	0.936	0.970
RDT&E Articles Quantity				
<p>FY04: Continued engineering and integration of SSBN variant of CSRR. FY05: Complete land-based testing of SSBN variant of CSRR. Conduct SEAWOLF OPEVAL. FY06: Complete integration, system certification and operational assessment of SSBN variant of CSRR. FY07: Complete OPEVAL of SSBN variant and initial a system upgrades.</p>				
	FY 04	FY 05	FY 06	FY 07
SCAP/CEP	3.882	4.527	4.481	4.557
RDT&E Articles Quantity				
<p>FY04: Continued Strategic Communications Continuing Assessment Program (SCAP), provided COMNAVSUBFOR Force Management and Force Direction products. Conducted Continuing Evaluation Program (CEP) analyzed each TRIDENT patrol and analyzed special message tests to verify continuous communication connectivity. FY05: Continue SCAP, conduct CEP and strategic connectivity threats, and perform analysis. Extend analysis to cover VLF shore connectivity paths and MILSTAR monitoring. FY06: Continue SCAP, conduct CEP and strategic connectivity threats, and perform analysis. Extended analysis covers VLF shore connectivity paths and MILSTAR monitoring. Additional monitoring and analysis is required for the NOVA/Hybrid EAM delivery system to establish a baseline and verify performance parameters. FY07: Continuation of FY06 efforts. Prerequisite for developing requirements set for EAM NC3 Long Term Solution.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feb-2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 1083 Shore to Ship Communications		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Concept Development/Systems Planning	0.906	0.942	0.912	0.916
RDT&E Articles Quantity				
FY04: Completed design concept and initial feasible studies for integrated FVLF dynamic control system. Began development of methods to provide the operational flexibility of dynamic allocation of the Fixed Submarine Broadcast System (FSBS) bandwidth. FY05: Continue development of dynamic allocation capability of the FSBS bandwidth. Begin development of coding and compression necessary to significantly increase the equivalent data throughput. Begin the development of a submarine communications architecture that provides a foundation of Joint and allied Network Enabled Operations (NEO). FY06: Implement codes and modulation schemes into operational equipment necessary to conduct throughput and coverage performance testing and evaluation. Complete the Joint/Allied NEO architecture design. FY07: Conduct testing, data collection and analysis. Utilize the data to develop employment CONOPS to maximize bandwidth enhancement and dynamic bandwidth allocation optimization. Demonstrate Joint/Allied NEO in an operational environment.				
	FY 04	FY 05	FY 06	FY 07
Submarine Operating Authority (SUBOPAUTH)	1.659	2.918	0.000	0.000
RDT&E Articles Quantity				
FY04: Developed the architecture to ensure automated SUBOPAUTH back-up strategy to support Continuity of Operations (COOP). FY05: Develop automated toolsets to facilitate ease in manning burden to support operational and broadcast control for submarines.				
	FY 04	FY 05	FY 06	FY 07
Nuclear Command, Control Communications Long Term Solution (NC3 LTS) (formerly EAM 2010)	3.910	4.763	4.339	3.055
RDT&E Articles Quantity				
FY04: Conducted an end-to-end assessment necessary to support the baseline of the current system and supported the Analysis of Alternatives and Initial Capabilities Document (ICD) for future capabilities. FY05: Implement life extension actions identified in the end-to-end assessment. Develop computer modeling and simulations. Initiate the acquisition program process and continue the NC3 LTS Analysis of Alternatives. Initiate the development of the prototype. FY06: Continue life extension actions identified in the end-to-end assessment and continue development of prototypes and demonstration of availability. FY07: Complete development of prototypes and demonstration. Commence development of NC3 LTS Increment 1.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feb-2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 1083 Shore to Ship Communications		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Low Band Universal Communication System (LBUCS) (formerly VLF Transmit Terminal & VLF Channel Modes)	0.000	2.976	4.352	3.690
RDT&E Articles Quantity				
<p>FY05: Conduct requirements definition of transmit and receive systems. Ensure the transmit and receive system designs are consistent with joint interoperability standards. Commence work on transmit and receive software.</p> <p>FY06: Continue development of transmit and receive software. Begin development of the transmit and receive equipment. Complete Milestone A.</p> <p>FY07: Complete development of transmit and receive equipment and software. Complete Milestone B.</p>				
	FY 04	FY 05	FY 06	FY 07
Submarine Enhanced Emergency Alert System (SEEAS)	0.000	0.000	1.181	0.000
RDT&E Articles Quantity				
<p>FY06: Design an emergency alert system replacing the AN/BST-1 (which reaches end of service life by 2010) for SSBNs in accordance with new operational requirements.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feb-2005																																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 1083 Shore to Ship Communications																																																																			
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">(U) Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY2005 President's Budget:</td> <td style="text-align: right;">12.218</td> <td style="text-align: right;">17.704</td> <td style="text-align: right;">17.614</td> <td style="text-align: right;">13.853</td> </tr> <tr> <td>FY2006 President's Budget:</td> <td style="text-align: right;">11.607</td> <td style="text-align: right;">17.482</td> <td style="text-align: right;">16.649</td> <td style="text-align: right;">13.626</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.611</td> <td style="text-align: right; border-top: 1px solid black;">-0.222</td> <td style="text-align: right; border-top: 1px solid black;">-0.965</td> <td style="text-align: right; border-top: 1px solid black;">-0.227</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.222</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-0.455</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-1.011</td> <td style="text-align: right;">-0.377</td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.067</td> <td style="text-align: right;">0.073</td> </tr> <tr> <td style="padding-left: 20px;">Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.021</td> <td style="text-align: right;">0.077</td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfers</td> <td style="text-align: right;">-0.156</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.611</td> <td style="text-align: right; border-top: 1px solid black;">-0.222</td> <td style="text-align: right; border-top: 1px solid black;">-0.965</td> <td style="text-align: right; border-top: 1px solid black;">-0.227</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: CSRR program Milestone C has slipped from 4th QTR FY04 to 3rd QTR FY05. Navy and DoD TEMP approval has delayed proceeding to CSRR Milestone C.</p> <p>(U) Technical: Not Applicable.</p>					(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY2005 President's Budget:	12.218	17.704	17.614	13.853	FY2006 President's Budget:	11.607	17.482	16.649	13.626	Total Adjustments	-0.611	-0.222	-0.965	-0.227	Summary of Adjustments					Congressional Adjustments					Congressional Recissions		-0.222			Reprogrammings	-0.455				Programmatic Adjustments			-1.011	-0.377	Economic Assumptions			0.067	0.073	Pricing Adjustments			-0.021	0.077	SBIR/STTR Transfers	-0.156				Subtotal	-0.611	-0.222	-0.965	-0.227
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: Feb-2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS			PROJECT NUMBER AND NAME 1083 Shore to Ship Communications			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
3107 Submarine Broadcast Support	14.499	17.693	2.162	0.671	18.696	18.931	19.331	19.749	Continuing	Continuing

(U) E. ACQUISITION STRATEGY: *

The Common Submarine Radio Room (CSRR) will integrate CNO N6 communication programs into the submarine radio rooms. The program has been designated an ACAT III due to the radio room system level Operational Test requirement and the amount of funding required to execute the program. Each class variant (SSBN, SSGN, SSN) will require design integration and operational testing. The CSRR program is proceeding to a Milestone C decision in 3rd Quarter FY05. The procurement of equipment will be accomplished by the established program offices; the integration of the equipment into the submarine environment will be conducted by the NAVSEA Undersea Warfare Center; and the installation will be accomplished by SPAWAR System Center, Charleston.

Low Band Universal Communication System (LBUCS) will maximize the use of Commercial Off The Shelf (COTS) and Non-Developmental Items (NDI) hardware and software. Procurement contract award will be based on full and open competition.

The Nuclear Command, Control and Communications Long Term Solution (NC3 LTS) (formerly EAM 2010) will develop an approach to use COTS and NDI components to extend operational life of the existing system and to establish a long term solution compatible with future Global Information Grid structures. The program plans MS-A in 2nd QTR FY07.

Submarine Operating Authority (SUBOPAUTH) is a phased Abbreviated Acquisition Program (AAP) using COTS and NDI.

Submarine Enhanced Emergency Alert System (SEEAS) is an AAP levying on technology developed on other programs and maximizes the use of COTS and NDI.

(U) F. Major Performers:

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: Feb 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			PE: 0204163N FLEET TELECOMMUNICATIONS				1083 Shore to Ship Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	6.243	3.059	11/04	1.517	11/05	1.089	11/06	Continuing	Continuing	0.000
Ancillary Hardware Development	Various	Various		0.272	11/04	0.331	11/05	0.288	11/06	Continuing	Continuing	0.000
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	21.596	0.989	12/04	0.983	12/05	0.997	12/06	Continuing	Continuing	0.000
Systems Engineering	WR	SSC San Diego, CA	34.178	3.098	11/04	2.259	11/05	1.688	11/06	Continuing	Continuing	0.000
Systems Engineering	WR	Misc. Labs, NUWC, RI	9.176	0.824	11/04	0.973	11/05	0.800	11/06	Continuing	Continuing	0.000
Systems Engineering	WR	US Army, Monmouth, NJ	4.460	0.247	12/04	0.875	11/05	0.525	11/06	Continuing	Continuing	0.000
Systems Engineering	Various	Various	16.154	0.000	N/A						16.154	0.000
Subtotal Product Development			91.807	8.489		6.938		5.387		0.000	112.621	0.000
Remarks:												
Development Support											0.000	0.000
Software Development	WR	SSC San Diego, CA	6.713	2.737	11/04	3.768	11/05	2.545	11/06	Continuing	Continuing	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Acquisition/Program Development				0.215	11/04	0.545	11/05	0.215	11/06	Continuing	Continuing	0.000
Technical Data			2.600	0.222	11/04	0.247	11/05	0.261	11/06	Continuing	Continuing	0.000
GFE											0.000	0.000
Subtotal Support			9.313	3.174		4.560		3.021		0.000	20.068	0.000
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: Feb 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 1083 Shore to Ship Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	8.600	3.735	12/04	3.498	12/05	3.460	12/06	Continuing	Continuing	0.000
Systems Testing	Various	Various	4.191	1.117	11/04	0.758	11/05	0.993	12/06	Continuing	Continuing	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			12.791	4.852		4.256		4.453		0.000	26.352	0.000
Remarks:												
Contractor Engineering Support	WR	US Army, Monmouth, NJ	0.492	0.452	11/04	0.250	12/05	0.125	12/06	Continuing	Continuing	0.000
Government Engineering Support	WR	Various	0.135	0.325	11/04	0.385	12/05	0.375	12/06	Continuing	Continuing	0.000
Program Management Support	Various	Various	4.192	0.190	11/04	0.210	12/05	0.215	12/06	Continuing	Continuing	0.000
Travel						0.050		0.050			0.100	0.000
Subtotal Management			4.819	0.967		0.895		0.765		0.000	7.446	0.000
Remarks:												
Total Cost			118.730	17.482		16.649		13.626		0.000	166.487	0.000
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: Feb-05											
Submarine Operation Authority - SUBOPAUTH																																			
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												PE: 0204163N FLEET TELECOMMUNICATIONS												1083 Shore to Ship Communications - SUBOPAUTH											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
AAP Designation	▲				★								★																						
Software Development																																			
System Development																																			
Equipment Delivery																																			
Software Phase I Delivery																																			
Software Phase II Delivery																																			
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
Production Milestones																																			
SMRS																																			
BCA SMG																																			
BKS SMG																																			
Deliveries																																			

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Example milestones above are provided as a sample only.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile											Nuclear Command, Control, Communications Systems - Long Term Solution											DATE: Feb-05													
APPROPRIATION/BUDGET ACTIVITY											PROGRAM ELEMENT NUMBER AND NAME											PROJECT NUMBER AND NAME													
RDT&E, N / BA-7											PE: 0204163N FLEET TELECOMMUNICATIONS											1083 Shore to Ship Communications - NC3 LTS													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones										MS-A					MS-B						MS-C														
Functional Area Analysis (FAA)					FAA																														
Functional Needs Analysis (FNA)					FNA																														
Functional Solution Analysis (FSA)						FSA																													
Initial Capabilities Document (ICD)										ICD																									
Concept Refinement Phase (AoA)						Concept Refinement																													
Technology Development Phase Capability Development Document (CDD)																																			
System Development Phase Capability Production Document (CPD)																																			
Production Phase																																			
Deployment Phase - Installation																																			
IOC - NC3 LTS																																			

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Terminology taken from DoDI 5000.2, dtd 12 May 2003.

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[illegible]

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EXHIBIT R4, Schedule Profile																							DATE: Feb-05									
Submarine Enhanced Emergency Alert System - SEEAS																																
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-7										PE: 0204163N FLEET TELECOMMUNICATIONS										1083 Shore to Ship Communications - SEEAS												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones							△	AAP DESIGNATION																								
Prototype Phase																																
System Development (e.g., Radar System dev.)																																
Software-Test Set Ensemble											△		△																			
Test & Evaluation Milestones																																
Development Test											△		△																			
Operational Test											△		△																			
Production Milestones																																
LRIP I																																
LRIP II																																
FRP (AN/BST-1 Buoy Unit)								△					△																			
Deliveries													△			△																

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: Feb-05												
Low Band Universal Communication System																																
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-7										PE: 0204163N FLEET TELECOMMUNICATIONS										1083 Shore to Ship Communications - LBUCS												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones							△		△	MS-A		△	MS-B		△	MS-C							☆	IOC								
Requirements Definition																																
Transmit / Receive SW																																
Communication Modes Infusion																																
Transmit Subsystem Development																																
Receive Subsystem Development																																
Equipment Delivery																																
Software Delivery																△											△					
Test & Evaluation Milestones																																
Development Test														△						△							△					
Operational Test																			△													
Production Milestones																																
Transmit Subsystem																																
Receive Subsystem																																
Communication Modes																																
Deliveries																																

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 171

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: Feb-05	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7		PE: 0204163N FLEET TELECOMMUNICATIONS				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		6.742	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was moved to PEO C4I & Space, PMW 176 from the United States Air Force starting in FY04 to better meet the requirements, deadlines, and funding priorities established for the project.</p> <p>The planned \$6.7M is to conduct the JIST-NET software development and engineering analysis operations with deliverable outputs for FY04. The scope of this effort is in the system and software engineering area. The project will have the necessary system and software engineering support to help the PEO C4I & Space, PMW 176 team define requirements and interface/integrate existing and newly developed SATCOM mission management capabilities into the JIST-NET project. The contractor will update the JIST-NET Software Design for the next JIST-NET prototype using the results of the Software Requirements Analyses. The Software Design Update will build upon the current JIST NET V1S3 prototype software. The contractor will design, implement, and test the next JIST-NET prototype. Also, comprehensive studies of the actual usage of satellite resources in a given Area Of Responsibility (AOR) for a specified period of time will be done. Support will include all requirements analysis and development and interface definition support. The project team will provide all the necessary tools, software, documentation, and support necessary to accomplish the required analysis and integration. The long-term goal of this project is to provide dynamic real time or near real time apportionment, allocation and adjudication of satellite resources for the warfighters based on priorities and requirements as assigned by the Operational Commanders.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: Feb-05		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Software Development / Systems Engineering	6.742	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 80px;">(U) FY04: The planned \$6.7M is to conduct the JIST-NET software development and engineering analysis operations with deliverable outputs for FY04.</div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 100px;"></div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feb-05	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	6.923	0.000	0.000	0.000
FY06 OSD Submit	6.742	0.000	0.000	0.000
Total Adjustments	-0.181	0.000	0.000	0.000
Summary of Adjustments				
Economic Assumptions	-0.006			
SBIR Transfer	-0.175			
Subtotal	-0.181	0.000	0.000	0.000
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: Feb-05	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS			PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)			
(U) D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete
Not Applicable									Total Cost
 (U) E. ACQUISITION STRATEGY:									
Not Applicable									
 (U) F. MAJOR PERFORMERS:									
Not Applicable									

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: Feb-05		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RD&E, N / BA-7			PE: 0204163N FLEET TELECOMMUNICATIONS				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	Various	Various	1.873							0.000	1.873	
Software Development	CPFF	NUWC (Newport, RI)	0.680							0.000	0.680	
Software Development	Various	Various	1.873							0.000	1.873	
Subtotal Product Development			4.426	0.000		0.000		0.000		0.000	4.426	
Remarks:												
Studies & Analyses	CPFF	NUWC (Newport, RI)	1.020							0.000	0.000	
Studies & Analyses	Various	Various	0.936									
Subtotal Support			1.956	0.000		0.000		0.000		0.000	1.956	
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: Feb-05		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC SD (San Diego, CA)	0.250							0.000	0.250	
Subtotal T&E			0.250	0.000		0.000		0.000		0.000	0.250	
Remarks:												
Program Management Support	Various	Various	0.110							0.000	0.110	
Subtotal Management			0.110	0.000		0.000		0.000		0.000	0.110	
Remarks:												
Total Cost			6.742	0.000		0.000		0.000		0.000	6.742	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-2	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS				PROJECT NUMBER AND NAME 9618 - Programmable Integrated Communication Terminal			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	1.377	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	Not Applicable							
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Provides a new design that offers additional benefits to enable the warfighters with the ability to change radio frequencies remotely via the Programmable Integrated Communication Terminals (PICTs) using the Digital Modular Radio (DMR)/Joint Tactical Radio System (JTRS).</p> <p>Integration of the telephone and external communications systems is vital to the timely exchange of information among warfighters aboard ship and prevents unnecessary interoperability problems. The Navy is currently accomplishing the integration of the internal and external communication systems with the Programmable Integrated Communication Terminals (PICTs).</p> <p>The PICT is the standard, integrated communications terminal used with the Integrated Voice Network (IVN) on amphibians, carriers and other critical weapons platforms. Its function is to provide the warfighter reliable access to all shipboard communications systems as well as secure and non-secure tactical communications channels.</p> <p>In support of voice communications, the PICT is also filling the need for control of radio channels and encryption equipment. Ongoing PICT design development is enabling the Navy's migration to software defined radios by providing human machine interface for the digital modular radio (DMR), designed to work with the Joint Tactical Radio System (JTRS). Operator positions will become multi-functional and give the operator the ability to adapt to various operational scenarios with access to multiple communications circuits through a single terminal. This capability is needed to enable Naval Forces to interoperate with other US Services.</p> <p>The PICT upgrade would also allow environmental testing and information assurance testing to ensure the unit and system can meet certification requirements.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 9618 - Programmable Integrated Communication Termnal																
B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="padding: 5px;">PICT</th> <th style="padding: 5px;">FY04</th> <th style="padding: 5px;">FY 05</th> <th style="padding: 5px;">FY 06</th> <th style="padding: 5px;">FY 07</th> </tr> <tr> <td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td> <td style="padding: 5px;">0.000</td> <td style="padding: 5px;">1.377</td> <td style="padding: 5px;">0.000</td> <td style="padding: 5px;">0.000</td> </tr> <tr> <td style="padding: 5px;">RDT&E Articles Quantity</td> <td style="padding: 5px;">N/A</td> <td style="padding: 5px;">N/A</td> <td style="padding: 5px;">N/A</td> <td style="padding: 5px;">N/A</td> </tr> </table> <p style="margin-top: 10px;">FY05: Funds will develop a design upgrade to the Programmable Integrated Communications Terminals (PICT) originally fielded in 1997. The PICT is currently on 30 Naval Platforms and acts as an integration terminal for combining internal and external shipboard communications systems. The proposed design upgrade is needed to improve PICT operational versatility and capability, potentially reduce man-hour requirements and further empower the warfighter's ability to select communications that fit the situation. Funds will specifically be used to:</p> <ol style="list-style-type: none"> 1) Ensure the proposed design upgrade (Model 7500 PICT) meets improved operational capabilities, stability and supportability requirements and performs as designed. 2) Perform qualification testing to ensure the reliability of the proposed design upgrade in the MIL-S-901D shock environment for CVN ship classes. 3) Perform TEMPEST testing to validate the security compliance of the integrated RED/BLACK processing circuits in the PICT to ensure Information Assurance Certification and overall DOD Information Technology Security Certification and Accreditation Process (DITSCAP) approval. 				PICT	FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.377	0.000	0.000	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
PICT	FY04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost	0.000	1.377	0.000	0.000														
RDT&E Articles Quantity	N/A	N/A	N/A	N/A														
R-1 SHOPPING LIST - Item No. 171																		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-2	PROGRAM ELEMENT NUMBER AND NAME PE: 0204163N FLEET TELECOMMUNICATIONS	PROJECT NUMBER AND NAME 9618 - Programmable Integrated Communication Terminal																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06 President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">1.377</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">1.377</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Increase</td> <td></td> <td style="text-align: right;">1.400</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.023</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 40px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">1.377</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Schedule:</td> </tr> <tr> <td colspan="5" style="padding-left: 20px;">Not Applicable.</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Technical:</td> </tr> <tr> <td colspan="5" style="padding-left: 20px;">Not Applicable.</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Funding:</td> </tr> <tr> <td colspan="5" style="padding-left: 20px;">Not Applicable.</td> </tr> </tbody> </table>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget:	0.000	0.000	0.000	0.000	FY06 President's Budget:	0.000	1.377	0.000	0.000	Total Adjustments	0.000	1.377	0.000	0.000	Summary of Adjustments					Congressional Increase		1.400			Congressional Rescissions		-0.023			Subtotal	0.000	1.377	0.000	0.000	Schedule:					Not Applicable.					Technical:					Not Applicable.					Funding:					Not Applicable.				
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R-1 SHOPPING LIST - Item No. 171

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0204229N Tomahawk Weapons System (TWS)			
COST (\$ in Millions)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Total PE Cost	74.754	31.473	20.342	17.480	14.929	15.080	14.262	12.596
0545 Tomahawk	74.754	31.473	20.342	17.480	14.929	15.080	14.262	12.596
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tomahawk Weapons System (TWS) provides the Tomahawk cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development. The Tactical Tomahawk (TACTOM) All-Up-Round missile development is a comprehensive spiral baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, increased accuracy, and higher lethality. A five year mulit-year (FY04-FY08) production contract was awarded in August 2004 for the production of up to 2200 block IV tomahawk missiles. The essential upgrades of the Block IV missile are improved guidance, navigation, control and mission computer; two-way satellite communications; and a significantly lower production cost as compared to the BLOCK III missile. Block IV provides a UHF Satcom data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages, and to broadcast Battle Damage Indication (BDI) messages. Block IV also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and the continuing advances identified as spiral development under the Tomahawk Baseline IV Operation Requirements Document (ORD). The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for the nuclear (TMPC only) and conventional TLAM, including distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for training development, installation planning, and simulation/model development. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission planning time and increase the quality and accuracy of each mission for Block III and IV TLAM. The Tomahawk Weapons Control System provides launch capability for surface and submarine platforms. Development of the Tactical Tomahawk Weapons Control System (TTWCS) provides a common architecture to launch the Tactical Tomahawk and all variants in inventory. Development of the Tactical Tomahawk Weapons Control System (TTWCS) requirements to meet the Joint Technical Architecture (JTA) version 6 requirements to meet FORCENet compliance and be Internet Protocol Version 6 (IPv6) ready is essential for continued interoperability within the Joint Service Architecture. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY99, with Phase A IOC (BLK III) in DEC 03, and Phase B IOC (TACTOM) in June 2004.								

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N Tomahawk Weapons System (TWS)				PROJECT NUMBER AND NAME 0545 TOMAHAWK			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	74.754	31.473	20.342	17.480	14.929	15.080	14.262	12.596
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tomahawk Weapons System (TWS) provides the Tomahawk cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development.

The Tactical Tomahawk (TACTOM) All-Up-Round missile development is a comprehensive spiral baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, increased accuracy, and higher lethality. A five year multi-year (FY04-FY08) production contract was awarded in August 2004 for the production of up to 2200 block IV tomahawk missiles. The essential upgrades of the Block IV missile are improved guidance, navigation, control and mission computer; two-way satellite communications; and a significantly lower production cost as compared to the BLOCK III missile. Block IV provides a UHF Satcom data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages, and to broadcast Battle Damage Indication (BDI) messages. Block IV also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and the continuing advances identified as spiral development under the Tomahawk Baseline IV Operation Requirements Document (ORD).

The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for both the nuclear (TMPC only) and conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for TECHEVAL and OPEVAL, training development, installation planning, and simulation/model development required by COMOPTEVFOR to offset live missile flights in TECHEVAL and OPEVAL. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission planning time and increase the quality and accuracy of each mission for Block III and IV TLAM.

The Tomahawk Weapons Control System provides launch capability for surface and submarine platforms. Development of the Tactical Tomahawk Weapons Control System (TTWCS) provides a common architecture to launch the Tactical Tomahawk and all variants in inventory. Development of the Tactical Tomahawk Weapons Control System (TTWCS) requirements to meet the Joint Technical Architecture (JTA) version 6 requirements to meet FORCENet compliance and be IPV6 ready is essential for continued interoperability within the Joint Service Architecture. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY99, with Phase A IOC (BLK III) in DEC 03, and Phase B IOC (TACTOM) in June 2004.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N Tomahawk Weapons System (TWS)	PROJECT NUMBER AND NAME 0545 TOMAHAWK																																
(U) B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Tactical Tomahawk All Up Round/Subtotal Cost</td><td style="text-align: right;">43.188</td><td style="text-align: right;">16.709</td><td style="text-align: right;">10.731</td><td style="text-align: right;">9.580</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 100px;"><p>Completed OPEVAL and IOC for Tactical Tomahawk. Continue development of the Tactical Tomahawk Torpedo-Tube Launch (TT-TTL) capability. Complete TTL software and hardware qualification testing, DT/OT flight tests and IOC. Continue hardware and software trade studies for Phase 2 ORD requirements to include Selective Availability Anti-Spoofing Module (SAASM) capability into the GPS, Precision Terrain Aided Navigation capability, Warhead Improvement/Penetration capability and High Speed (Supersonic) capability.</p></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>TACTOM Command and Control/Subtotal Cost</td><td style="text-align: right;">11.348</td><td style="text-align: right;">4.778</td><td style="text-align: right;">4.853</td><td style="text-align: right;">4.747</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 100px;"><p>Continue development and incorporation of new capabilities in Tomahawk Command and Control systems necessary for the employment of Tactical Tomahawk. Support Tactical Tomahawk Weapon System OPEVAL. Continue development of related training and installation materials. Continue imagery upgrades to Tomahawk Command and Control System. Continue Test & Evaluation support for Tomahawk Command and Control Systems.</p></div>						FY04	FY05	FY06	FY07	Tactical Tomahawk All Up Round/Subtotal Cost	43.188	16.709	10.731	9.580	RDT&E Articles Quantity						FY04	FY05	FY06	FY07	TACTOM Command and Control/Subtotal Cost	11.348	4.778	4.853	4.747	RDT&E Articles Quantity				
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Tactical Tomahawk All Up Round/Subtotal Cost	43.188	16.709	10.731	9.580																														
RDT&E Articles Quantity																																		
	FY04	FY05	FY06	FY07																														
TACTOM Command and Control/Subtotal Cost	11.348	4.778	4.853	4.747																														
RDT&E Articles Quantity																																		

R-1 SHOPPING LIST - Item No. 172

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N Tomahawk Weapons System (TWS)	PROJECT NUMBER AND NAME 0545 TOMAHAWK																						
(U) B. Accomplishments/Planned Program																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>TACTOM Weapons Control System (TTWCS)</td><td></td><td></td><td></td><td></td></tr><tr><td>/Subtotal Cost</td><td style="text-align: center;">14.218</td><td style="text-align: center;">5.986</td><td style="text-align: center;">4.758</td><td style="text-align: center;">3.153</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY07	TACTOM Weapons Control System (TTWCS)					/Subtotal Cost	14.218	5.986	4.758	3.153	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07																				
TACTOM Weapons Control System (TTWCS)																								
/Subtotal Cost	14.218	5.986	4.758	3.153																				
RDT&E Articles Quantity																								
<div style="border: 1px solid black; padding: 5px;"><p>FY04: Complete Phase 1B Land Based and Sea Based System Testing of Weapons Control System. Successful completion of TECHEVAL/OPEVAL for TTWCS Phase B, deployment of Initial Operational Capability for TTWCS. Continued Development of Integrated Training Architecture in version 5 TTWCS.</p><p>FY05: Continue development of Tactical Tomahawk Weapons System Integrated Training Architecture, continue development of version 5 software, initiate version 6 development activities to develop JTA version 6 requirements.</p><p>FY06: Complete TTWCS version 5 development, enter TECHEVAL/OPEVAL for TTWCS version 5, continue with TTWCS version 6 development efforts, begin the TTWCS version 7 development efforts that complete the implementation of JTA version 6 requirements.</p><p>FY07: Complete the development of TTWCS version 6, enter the TECHEVAL/OPEVAL for TTWCS version 6, continue with TTWCS version 7 development efforts</p></div>																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Precision Terrain Aided Navigation/Subtotal Cost</td><td style="text-align: center;">6.000</td><td style="text-align: center;">4.000</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY07	Precision Terrain Aided Navigation/Subtotal Cost	6.000	4.000			RDT&E Articles Quantity									
	FY04	FY05	FY06	FY07																				
Precision Terrain Aided Navigation/Subtotal Cost	6.000	4.000																						
RDT&E Articles Quantity																								
<div style="border: 1px solid black; padding: 5px;"><p>Completed demonstration prototype of Precision Terrain Aided Navigation (PTAN) capability to demonstrate real-time operation. Initiate PTAN advanced technology risk reduction efforts to develop next generation PTAN prototypes and to integrate PTAN capability into the missile simulation labs.</p></div>																								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N Tomahawk Weapons System (TWS)	PROJECT NUMBER AND NAME 0545 TOMAHAWK

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
Previous President's Budget:	76.524	28.776	18.262	13.409
Current BES/President's Budget	74.754	31.473	20.342	17.480
Total Adjustments	-1.770	2.697	2.080	4.071
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.297		
Congressional rescissions				
SBIR/STTR Transfer	-3.612			
Other		-0.006	1.899	3.869
Economic Assumptions	-0.089		0.181	0.202
Reprogrammings	1.931	-1.000		
Congressional increases		4.000		
Subtotal	-1.770	2.697	2.080	4.071

(U) Schedule:

Block IV successfully completed IOC in May 2004 and received Milestone III and full rate production decision approval in August 2004. A multiyear full rate production contract awarded in August 2004 for FY 2004-2008 production. Torpedo Tube Launch capability qualification will complete in FY 2006 followed by DT/OT and IOC in FY 2006. DT delayed from FY05 PB because Combined (DT/OT) of the Tactical Tomahawk, Torpedo Tube Launched (TT TTL) can only be done with a 688/688I Class submarine configured with the BYG-1 weapons control system that has been upgraded with Technology Insertion 04 (TI-04). The earliest that a platform (USS BOISE) can be made available by the Submarine Force for TT TTL DT/OT is January 2006.

(U) Technical:

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 5 of 11)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204229N Tomahawk Weapons System (TWS)			PROJECT NUMBER AND NAME 0545 TOMAHAWK					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
WPN BLI 210100 Tomahawk	351.971	279.113	353.409	366.200	445.385	431.618	443.362	448.021		3119.079
OPN BLI 525000 Surface Tomahawk Support Equipment	62.861	69.307	0.000	0.000	0.000	0.000	0.000	0.000		132.168
OPN BLI 525005 Surface Tomahawk Support Equipment Installation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0		0
OPN BLI 525500 Submarine Tomahawk Support Equipment	5.735	5.436	0.000	0.000	0.000	0.000	0.000	0.000		11.171
OPN BLI 5253000 Surface Tomahawk Support Equipment Installation			75.075	52.836	44.381	45.666	46.201	46.341		310.5
OPN Spares BLI 902010 Initial Spares	3.910	1.667	1.792	1.337	1.109	0.000	0.000	0.000		9.815
OPN Spares BLI 902090 Vendor Direct Spares	0.464	0.987	0.641	0.647	0.639	0.638	0.651	0.664		5.331
Related RDT&E,N: Not Applicable										
(U) E. ACQUISITION STRATEGY:										
<p>(U) D. ACQUISITION STRATEGY: In 1998, the Tomahawk Baseline Improvement Program (TBIP) transitioned to the Tactical Tomahawk (Block IV) program. This program is outlined in the Class Justification and Approval (CJ&A No AIR-22448) signed by the Under Secretary of the Navy on 29 May 1998. The acquisition strategy was to transition the Tomahawk Baseline Improvement Program (TBIP) to Tactical Tomahawk. The Tactical Tomahawk development program was a cost sharing contract between the Government and the Contractor to add capability to the missile. Block IV received Milestone III and full rate production approval in August 2004.</p> <p>Torpedo Tube Launch (TTL) capability will IOC in FY 2006. TTL missiles will be procured within the current missile production budget as required to meet Fleet loadout requirements. Other spiral development capabilities will be introduced after successful qualification and testing.</p>										

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 6 of 11)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY								February 2005				
RDT&E, N / BA-7			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
			0204229N Tomahawk Weapons System (TWS)			0545 TOMAHAWK						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
Primary Hardware Development												
Tactical Tomahawk Program												
All Up Round	SS/CPFF	Raytheon, Tucson, AZ	217.622	4.658	11/04	2.200	11/05	6.502	11/06	10.513	241.495	241.495
TTPC	SS/CPFF	Raytheon, Tucson, AZ	3.189								3.189	3.189
TTL	SS/CPAF	Raytheon, Tucson, AZ	10.469	5.340	11/04	3.567	11/05				19.376	19.376
Award Fee TTL			0.819	0.469	11/04	0.585	11/05				1.873	
Mission Planning System	SS/CPFF	ComGlobal, San Jose, CA	32.633	2.102	12/04	2.150	12/05	2.111	12/06	5.165	44.161	44.161
Weapons Control System	Various	Various	7.347	0.000	12/04	0.000	12/05	0.000	12/06	4.624	11.971	11.971
Award Fee WCS	C/CPAF	Lockheed, Valley Forge, PA	90.512								90.512	90.512
Ship Integration			4.996								4.996	
Launcher Integration	SS/CPAF	NAVSEA, Washington, DC	24.316	0.969	12/04						25.285	25.285
Award Fee Launcher Integration			0.752	0.029	12/04						0.781	
Systems Engineering												
All Up Round	SS/FP	Raytheon, Tucson, AZ	14.203	0.200	11/04	0.366	11/05	0.196	11/06	0.647	15.612	15.612
Weapons Control System	SS/CPFF	UARC APL, Laurel, MD	25.234	0.587	01/05	0.892	01/06	1.442	01/07	0.218	28.373	28.373
Award Fee WCS	C/FP	Boeing, St. Louis, MO	3.000								3.000	3.000
All Product Development Costs, 1974 through TBIP Costs in 1998	SS/CPFF	URAC APL, Laurel, MD	2.916	0.819	12/04	0.875	12/05	0.150	12/06	1.387	6.147	6.147
Subtotal Product Development												
Remarks: Prior year award fees earned is 94% (TTL) Prior year award fees earned is 61% (Launcher Integration) Prior year award fee earned for FY03 is 93% (WCS) Prior year award fee earned for FY04 is 75% (WCS)												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 11)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
February 2005												
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204229N Tomahawk Weapons System (TWS)			0545 TOMAHAWK						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support (Development)												
Development Support												
All-Up-Round	WR	NUWC, Newport, RI	8.352	1.694	11/04	0.600	11/05				10.646	
	SS/CPFF	SAIC, Arlington, VA	8.913	0.784	12/04	0.760	12/05	0.560	12/06	4.350	15.367	15.367
	C/CPFF	Honeywell, Minneapolis, MN	3.924	3.640	01/05						7.564	7.564
	Various	Various	63.256	0.998	11/04	0.819	11/05	0.504	11/06	Continuing	Continuing	
Weapons Control Systems	WR	NUWC, Newport, RI	18.623	2.048	11/04	0.525	11/05	0.090	11/06	Continuing	Continuing	
Software Development												
Mission Planning Systems	SS/CPFF	Raytheon, Arlington, VA	5.100								5.100	5.100
	SS/CPFF	Lockheed, Valley Forge, PA	5.794	1.482	12/04	1.500	12/05	1.452	12/06	3.771	13.999	13.999
	SS/CPFF	SAIC, Arlington, VA	14.307								14.307	14.307
	SS/CPFF	URAC APL, Laurel, MD	15.443	1.194	12/04	1.203	12/05	1.184	12/06	8.805	27.829	27.829
Weapons Control Systems	WR	NSWC, Dahlgren VA	29.202	2.660	11/04	2.484	11/05	2.763	11/06	Continuing	Continuing	
	C/CPAF	Lockheed, Valley Forge, PA	99.246	1.280	12/04	0.788	12/05	0.135	12/06	2.122	103.571	103.571
Award Fee WCS				0.120	12/04	0.086	12/05	0.015	12/06		0.221	
Subtotal Support			272.160	15.900		8.765		6.703		Continuing	Continuing	
Remarks: Prior year award fees earned 90% (WCS)												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 11)

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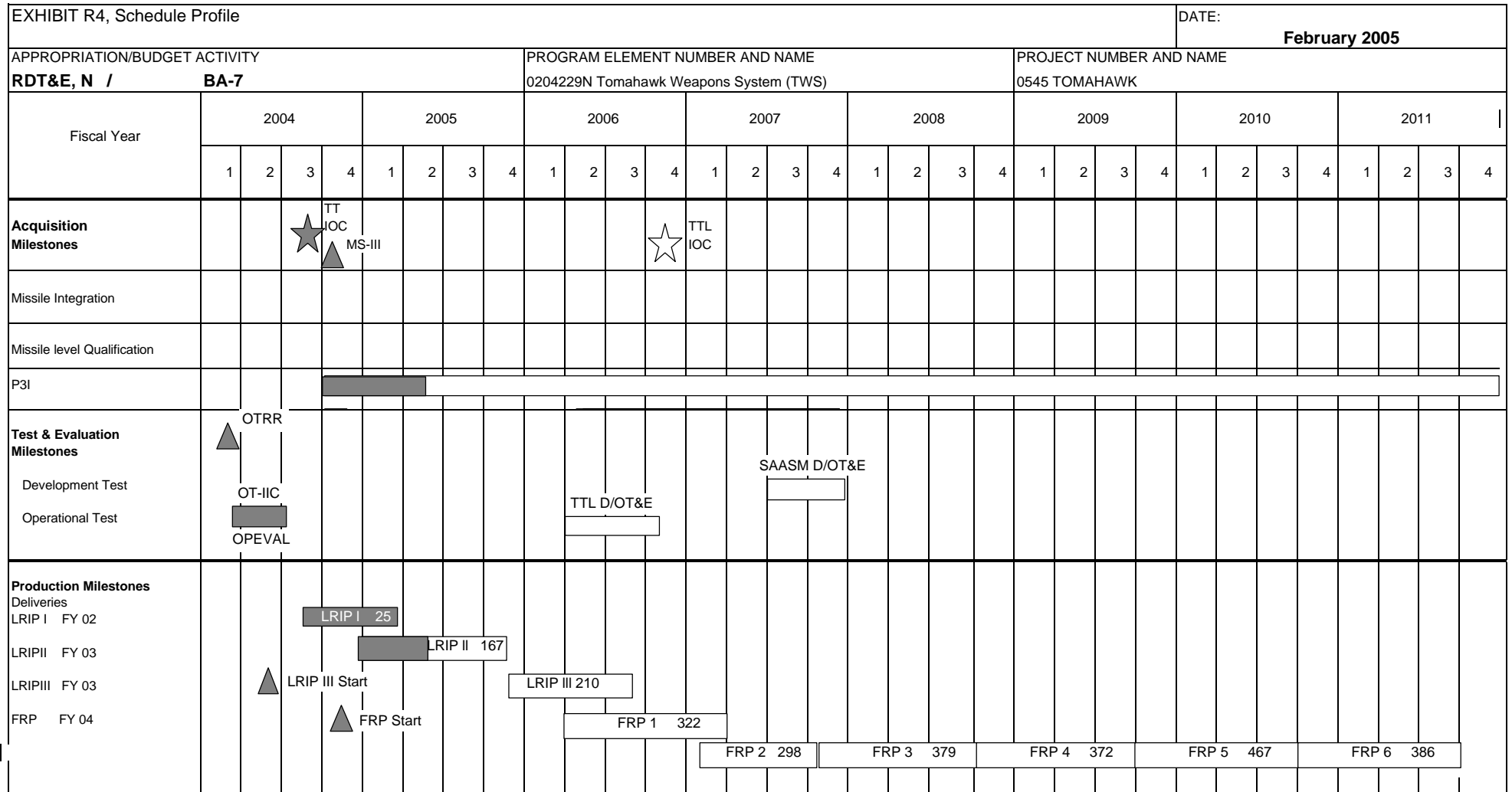
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204229N Tomahawk Weapons System (TWS)			PROJECT NUMBER AND NAME 0545 TOMAHAWK						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	SS/CPFF	Raytheon, Tucson, AZ	42.217								42.217	42.217
	SS/CPFF	URAC APL, Laurel MD	1.602	0.050	12/04	0.050	12/05				1.702	1.702
	Various	Various	37.023	0.350	11/04	0.892	11/05	0.376	11/06	Continuing	Continuing	
Subtotal T&E			80.842	0.400		0.942		0.376		Continuing	Continuing	
Remarks:												
Management												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			2,967.457	31.473		20.342		17.480		Continuing	Continuing	
Remarks:												

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 10 of 11)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 11 of 11)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						R-1 ITEM NOMENCLATURE 0204311N-Integrated Surveillance Systems					
BA-7											
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Total PE Cost	317.092	14.117	20.034	23.453	23.192	20.023	21.472	23.692	24.051	Continuing	Continuing
0766-IUSS Detection and Classification System	240.987	9.903	12.958	19.486	19.529	16.231	17.584	19.702	19.959	Continuing	Continuing
Z0766 Fixed Surveillance Systems- Note 1	76.105	4.214	3.814	3.967	3.663	3.792	3.888	3.990	4.092	Continuing	Continuing
9622 Fiber Optic Fixed Surveillance System	0.000	0.000	3.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.262
Quantity of RDT&E Articles											0.000
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (P.E.) comprises three projects - 0766, 9622, and Z0766. Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO LMW PMS 485). IUSS provides the Navy with its' primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. Project Z0766 (FSS) is a classified project, with details available at a higher classification level. Project 9622 (Fiber Optic FSS) is a Congressional Plus-Up that supports FDS All Optical development efforts for Fixed Surveillance Systems.											
(U) JUSTIFICATION FOR BUDGET ACTIVITY: The IUSS Research and Development project (Q0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.											
(U) In order to continue with reductions in life cycle costs and continue with system-wide consolidation, a short-term goal is to develop a common IUSS processor based on NAVSEA'S Acoustic Rapid COTS Insertion (ARCI) program. The IUSS Common Processor will have the capability to process and display data from all fixed and mobile underwater systems. The IUSS Common Processor will be used for all new system installations and replace the legacy systems as they reach end of life and require upgrading. Additionally, SURTASS is consolidating on the TB-29A/TL array, a variant of the Submarine TB-29A Long line array. This will reduce the number of array variants employed by SURTASS from 4 to 1, and will enable development and logistics cost savings by leveraging off the submarine TB-29A program.											
(U) Future efforts will be focused on upgrading the LFA capability to the IUSS Common Processor baseline, support bi-static processing utilizing the TL-29A, support activation of fixed sensors, develop smaller, lighter weight acoustic sources for augmentation of small SWATH platforms, and for replacement of aging LFA sources. Together these efforts support an Active Improvement Program within IUSS.											
Note 1 -- Details available at a higher classification.											

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 17)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems					PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	240.987	9.903	12.958	19.486	19.529	16.231	17.584	19.702	19.959	Continuing	Continuing
RDT&E Articles Qty											0
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: <p>A. (U) The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is leveraging existing developments and reducing costs by using Non-Developmental Items and commercial hardware; supporting common Navy Undersea Warfare processing and towed array developments; while increasing operator efficiency through computer aided detection and classification processing. SURTASS development efforts include: LFA improvements, common IUSS processing, twin-line array development and processing, improved detection and classification/passive automation to counter quieter threats; additional signal processing and bi-static active capability; integrated active and passive operations; improved Battle Group support; and improved information processing.</p> <p>(U) LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters. Improvements include TL-29A/LFA integration enhancements; advanced waveforms for littoral/shallow water operations including Doppler sensitive waveforms; and processing algorithms to reduce clutter and reverberation false alarms in shallow water. The LFA task includes development and testing of a compact LFA transmit source array for SWATH-P ships, and upgrade of LFA processing capability into the IUSS Common Processing architecture. The IUSS Common Processor is a derivative of the NAVSEA Submarine Acoustic Rapid COTS Insertion (ARCI) program, and is being augmented for IUSS requirements. Together, the LFA improvements, TL-29A, and the IUSS Common Processor support the Active Improvement Program being initiated by PEO LMW PMS 485.</p> <p>(U) Functional improvements are delivered to the Fleet in software "Builds", while hardware improvements are delivered through the "Tech Insertion" process. Software builds are based upon the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. Each APB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. The "Tech Insertion" process, modelled after the NAVSEA Submarine USW hardware improvement program, delivers processing technology improvements to platforms on roughly a 4-year cycle. Hardware upgrades for active and passive arrays and communications systems will also be provided during "TI" upgrades, but not on a regular planned development cycle as for the processing upgrades.</p> <p>B. (U) PEO LMW is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, SDS, SURTASS, and ADS. The near-term goal is to develop a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system architecture, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The development of the IUSS processor will take advantage of automation advancement, array technology improvements, and IUSS, submarine, and surface USW system commonality. Additionally, a long term goal is to activate all IUSS sensors as part of a coordinated Active Improvement Program.</p>											

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 17)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>T-23 Development Testing</td><td style="text-align: center;">1.073</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">FY04: T-23 DT (\$1.073K) – Complete certification testing. Correct software issues uncovered during testing in preparation for operations.</div>						FY 04	FY 05	FY 06	FY 07	T-23 Development Testing	1.073	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
T-23 Development Testing	1.073	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Common Acoustic Processor</td><td style="text-align: center;">2.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">FY04: Common Acoustic Processor (\$2,000K) – Complete software development for Twin-Line processing in the ARCI architecture. Transition Common Acoustic Processor to MSS Active Improvement Program.</div>						FY04	FY05	FY06	FY 07	Common Acoustic Processor	2.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY 07															
Common Acoustic Processor	2.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Active Acoustics</td><td style="text-align: center;">0.659</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">FY04: Active Acoustics (\$659K) - Continue implementation of a multi-year sea test program focused on CONOPS and the physics of shallow water. Continue development of improvements for LFA operations in shallow water. Continue sea test program to support system improvements and demonstrate/validate operational concepts. Transition Active Acoustics efforts to MSS Active Improvement Program.</div>						FY04	FY05	FY06	FY 07	Active Acoustics	0.659	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY 07															
Active Acoustics	0.659	0.000	0.000	0.000															
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
LFA Environmental	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
No Activity--Funding transferred to ONR beginning in FY04.				
	FY 04	FY 05	FY 06	FY 07
N74 ASW Study	0.700	0.700	0.700	0.700
RDT&E Articles Quantity				
FY04: N74 ASW Study (\$700K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models. FY05: N74 ASW Study (\$700K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models. FY06: N74 ASW Study (\$700K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models. FY07: N74 ASW Study (\$700K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.				
	FY 04	FY 05	FY 06	FY 07
ASW C4I	0.125	0.000	0.000	0.000
RDT&E Articles Quantity				
FY04: ASWC4I (\$125K) – Continue performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation. Transition ASW C4I to MSS Active Improvement Program.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
System Engineering	0.125	0.000	0.000	0.000
RDT&E Articles Quantity				

FY04: IUSS System Engineering (\$125K) – Continue to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions for IUSS Common Processor. Transition System Engineering to MSS Active Improvement Program.

	FY 04	FY 05	FY 06	FY 07
Passive Processing & Automation	1.095	0.000	0.000	0.000
RDT&E Articles Quantity				

FY04: (\$1,095K) – Continue development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments. Participation in SDWG and related working groups. Focus future efforts on SURTASS Active Improvement Program.

	FY 04	FY 05	FY 06	FY 07
SURTASS System Eng & Shore Support	1.000	0.000	0.000	0.000
RDT&E Articles Quantity				

FY04: (\$1,000K) Complete development of SURTASS ARCI interfaces with IUSS legacy systems. Complete implementation of Common OMI.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System		
(U) B. Accomplishments/Planned Program				
TB-29A/Twin-Line	FY 04 1.740	FY 05 1.500	FY 06 0.000	FY 07 0.000
RDT&E Articles Quantity				
<p>FY04: (\$1,740K) Continue processing improvements to support TB-29A operations and expand array interoperability. Develop across platform telemetry architecture. Continue development of Twin-Line modifications to basic TB-29A architecture.</p> <p>FY05: (\$1,500K) Complete processing improvements to support TB-29A operations and expand array interoperability.</p>				
SURTASS Active Improvement Program	FY 04 1.386	FY 05 10.758	FY 06 18.786	FY 07 18.829
RDT&E Articles Quantity				
<p>FY04: (\$1,386K) Initiate design of Compact Low Frequency Active (CLFA) array suspension and handling system. Investigate compatible CLFA acoustic source variants.</p> <p>FY05: (\$10,758) Continue development of CLFA capability. Begin transmit subsystem development and Small Waterplane Area Twin Hull-Passive (SWATH-P) SOC modifications. Begin active IUSS Common Processor development.</p> <p>FY06: (\$18,786) Continue development of CLFA capability. Complete SWATH-P SOC modification designs and convert first SWATH-P platform to support CLFA system. Continue active IUSS Common Processor development. Begin Sea Test Planning and DT/OT preparations for Active Improvement Program (LFA/TL-29A/IUSS Common Processor). Begin development of Off-Board Sensor capabilities.</p> <p>FY07: (\$18,829) Continue development of CLFA capability. Continue active IUSS Common Processor development to support bi-static processing and fixed sensor activation. Conduct DT/OT for Active Improvement Program (LFA/TL-29A/IUSS Common Processor). Continue development of Off-Board Sensor capabilities.</p>				
	FY 04 0.000	FY 05 0.000	FY 06 0.000	FY 07 0.000
RDT&E Articles Quantity				
No Activity.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems		PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System		
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007	
FY05 President's Budget		9.903	13.138	14.060	16.309	
FY06/07 President's Budget		9.903	12.958	19.486	19.529	
Total Adjustments		0.000	-0.180	5.426	3.220	
Summary of Adjustments						
Congressional Undistributed Adjustments			-0.177			
Programmatic/Other Adjustments			-0.003	5.426	3.220	
Subtotal		0.000	-0.180	5.426	3.220	
 (U) Schedule:						
Not Applicable.						
 (U) Technical:						
Not Applicable						

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 7 of 17)

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EXHIBIT R-2a, RDT&E Project Justification								DATE:			
								February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0204311N-Integrated Surveillance Systems			0766: IUSS Detection and Classification System					
(U) D. OTHER PROGRAM FUNDING SUMMARY:											
Line Item No. & Name		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Complete	Total Cost
OPN 2237		15.009	7.123	3.848	3.477	1.186	1.405	1.437	1.471	Continuing	Continuing
OMN Omitted per instructions											
E. ACQUISITION STRATEGY											
		FY 2004			FY 2005			FY 2006			FY2007
Program											
Milestones											
Engineering		ARCI TB29/TL			IUSS Common Processor						IUSS Common Processor
Milestones		VARIANT 8/04			TL-29A Variant 7/05						LFA/CLFA/Bi-Static Variant
T&E		T-23 SEA TESTS			TL-29A SEA TESTS						CLFA SEA TESTS
Milestones		TB-29A/TL SEA TESTS									
Contract		TB-29A/TL			IUSS Common Processor						
Milestones		VARIANT 6/04			SURTASS 7/05						

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 17)

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 10 of 17)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204311N-Integrated Surveillance Systems				PROJECT NUMBER AND NAME 0766: IUSS Detection and Classification System							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
IUSS Common Architecture	Var/ WX	VARIOUS	1.551	0.286	11/03	0.000		0.000		0.000		0.000	1.837	
LFA Improvements	Var/ WX	VARIOUS	7.366	0.653	11/03	1.200	11/04	3.500	11/05	4.000	11/06	Continuing	Continuing	
Passive Signal Processing/ Sonar	Var/ WX	VARIOUS	0.950	0.350	11/03	0.000		0.000		0.000		0.000	1.300	
Array Improvements	Var/ WX	VARIOUS	0.250	0.340	11/03	0.600	11/04	0.000		0.000		0.000	1.190	
													0.000	
													0.000	
													0.000	
Subtotal T&E			10.117	1.629		1.800		3.500		4.000		Continuing	Continuing	
Remarks:														
LFA Improvements /C4ISR	Var/ WX	VARIOUS	1.887	0.130	11/03	0.400	11/04	0.400	11/05	0.400	11/06	Continuing	Continuing	
Passive Signal Processing/ Sonar	Var/ WX	VARIOUS	0.100	0.150	11/03	0.000		0.000		0.000		0.000	0.250	
Array Improvements	Var/ WX	VARIOUS	0.200	0.200	11/03	0.200	11/04	0.000		0.000		0.000	0.600	
													0.000	
													0.000	
													0.000	
Subtotal Management			2.187	0.480		0.600		0.400		0.400		Continuing	Continuing	
Remarks:														
Total Cost			#REF!	#REF!		#REF!		#REF!		#REF!		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 11 of 17)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME														PROJECT NUMBER AND NAME									
RDT&E, N / BA-7										0204311N-Integrated Surveillance Systems														0766: IUSS Detection and Classification System									
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition Milestones Inactive ACAT II Status Eff 15 Jul 2002																																	
Test & Evaluation Milestones T-23 Development Testing																																	
TB-29A/Twinline																																	
LFA / TL-29A / CP FOT& E																																	
Production Milestones IUSS Common Processor																																	
CLFA																																	
Tech Insertion 2010																																	

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* Not required for Budget Activities 1, 2, 3, and 6

FOT & E: Follow-on Test and Evaluation

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 12 of 17]

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CLASSIFICATION:

[illegible][illegible]

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Exhibit R-4, Schedule Profile
(Exhibit R-4,13 page 13 of 17)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems					9622: Fiberoptic Fixed Surveillance System					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	3.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.262
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. These systems include FDS, FDS-C, SDS, SURTASS, and ADS. This effort supports continued development of an All-Optical fixed surveillance system.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 14 of 17)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 9622: Fiberoptic Fixed Surveillance System																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>Fiber Optic FSS Technology Development</td><td style="text-align: center;">0.000</td><td style="text-align: center;">3.262</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Fiber Optic FSS Technology Development	0.000	3.262	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Fiber Optic FSS Technology Development	0.000	3.262	0.000	0.000															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
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RDT&E Articles Quantity																			
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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 15 of 17)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME 9622: Fiberoptic Fixed Surveillance System																																															
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06/07 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">3.262</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">3.262</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Other Adjustments</td> <td></td> <td style="text-align: right;">3.300</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Undistributed Adjustments</td> <td></td> <td style="text-align: right;">-0.038</td> <td></td> <td></td> </tr> <tr> <td style="padding-top: 10px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">3.262</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p>(U) Schedule: Not applicable</p> <p>Technical: Not applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	0.000	0.000	0.000	0.000	FY06/07 President's Budget	0.000	3.262	0.000	0.000	Total Adjustments	0.000	3.262	0.000	0.000	Summary of Adjustments					Other Adjustments		3.300			Congressional Undistributed Adjustments		-0.038			Subtotal	0.000	3.262	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																													
Funding:																																																	
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FY06/07 President's Budget	0.000	3.262	0.000	0.000																																													
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Subtotal	0.000	3.262	0.000	0.000																																													

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems			PROJECT NUMBER AND NAME 9622: Fiberoptic Fixed Surveillance System						
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
NONE											
Related RD TEN: (U) PE 0604784N Advanced Deployable System		32.876	17.416	54.256	57.974	34.022	35.145	40.357	21.513	Continuing	Continuing
E. ACQUISITION STRATEGY:											
Program Milestones Engineering Milestones T&E Milestones Contract Milestones											
F. MAJOR PERFORMERS: **											

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE PE 0204413N/Amphibious Tactical Support Units			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	5.558	3.668	4.768	4.190	2.278	2.751	2.792	2.849
1980 AMPHIB OTHER C2	4.355	0.158	2.748	2.314	0.375	0.386	0.399	0.411
2231 Technology Transfer	1.153	0.000	2.020	1.876	1.903	2.365	2.393	2.438
2909 AMPHIBIOUS LIGHTERAGE DEVELOP	0.050	3.510	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element supports multiple amphibious warfare development and technology insertion efforts.								
B. PROJECT UNIT EFFORTS are as follows: AMPHIB OTHER C2 (1980) - SACC-A automates the Supporting Arms Coordination Center (SACC) aboard LHA 1, LHD 1 and LHD 5 ship classes, providing an integrated, automated capability to conduct Amphibious Task Force (ATF) Marine Expeditionary Brigade (MEB) level fire support planning, coordination, deconfliction, and execution of fires utilizing all supporting arms including naval surface fires, air assets, artillery, mines and mortars. AADS (1980) - This PU also contains FY06-FY07 funding for the Amphibious Assault Direction System (AADS, AN/KSQ-1), which provides AADS the ability to investigate future Navy C4ISR technical direction, explore technological advances, and analyze interoperability issues in order to develop the requisite technical upgrades. TECHNOLOGY TRANSFER (2231) - The FY06-FY11 funding supports 6.3 research efforts on LCAC Future Naval Capabilities (FNC): Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (STTR), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personal Transport Module (SBIR), Enhanced Skirt Finger Material (FCT), the Lube Oil Cooler (FCT) and the Composit Shroud (FCT). AMPHIBIOUS LIGHTERAGE DEVELOPMENT (2909) - This project supports development and procurement of technology to develop Navy causeway lighterage. The Improved Navy Lighterage System (INLS) replaces the existing Navy Lighterage (NL) system and supports the US Navy Lighterage recapitalization plan. Current NL will reach the end of its service life and will impact crew safety and operation readiness. INLS will be capable of operations in higher sea states, have a greater service life, and have reduced maintenance costs. INLS will be deployed during Logistic Over The Shore (LOTS) operations, Assault Follow On Echelon (AFOE) operations and Maritime Prepositioning Force (MPF) operations. INLS consists of Warping Tugs, Causeway Ferries, RO/RO Discharge Facilities and Floating Causeway. The design and development for INLS was completed in FY04. Contract for Low Rate Initial Production (LRIP) was awarded in Aug 03. OPEVAL DT/OT will take place 3rd quarter in FY05. In addition, INLS Phase III design process continues with the High Speed Ferry Assault Connector (CFFX) in support of the Seabasing concept.								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units				PROJECT NUMBER AND NAME 1980 AMPHIB OTHER C2		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.355	0.158	2.748	2.314	0.375	0.386	0.399	0.411
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>AMPHIB OTHER C2 includes:</p> <p>SACC-A: The FY04-FY11 Supporting Arms Coordination Center - Automation (SACC-A) program automates the SACC aboard LHA & LHD class ships. Currently the process is all manual and voice accomplished, unresponsive to the needs of Marine Forces ashore. Specifically, SACC-A is developing a Ship to Objective Maneuver (STOM) Fire's Command & Control cell for the Amphibious Large Deck ships. SACC-A provides an integrated, auto capability to conduct Marine Expeditionary Brigade level fire support planning, coordination, and execution of all supporting arms fires, including Naval Surface Fires, Tactical Air and Artillery & Mortars ashore. SACC-A integrates other Command & Control systems aboard the ship and ashore to provide maximum situational awareness and a common operating picture.</p> <p>AADS: The FY06-FY07 Amphibious Assault Direction System (AADS, AN/KSQ-1) program researches Network Centric Warfare requirements for Amphibious Assault Command and Control, identifies the projected technological advances and requirements of Fleet systems, and identifies the Next Generation AADS operational requirements and capabilities. Technology integration with Expeditionary Strike Group ships is also included.</p>								

R-1 SHOPPING LIST - Item No.

174/2

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units	PROJECT NUMBER AND NAME 1980 AMPHIP OTHER C2		

B. ACCOMPLISHMENTS/PLANNED PROGRAM

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.355	0.158	2.748	2.314
RDT&E Articles Quantity				

SACC-A: System Engineering development for spiral acquisition, including requirements definition and lab-based testing; Acquisition and prototype interface development of AFATDS with other systems and installation and test aboard LHA/LHD; DoD documentation program reviews (e.g. ORD revalidation, APB, TEMP, SEMP, ILSP); Programmatic support (e.g. management, plans, schedule, briefs, travel, studies, etc.); shipboard interface and interoperability testing of spiral development, training, and logistics system development, and system integration and shipboard interface/interoperability testing.

AADS: System Engineering and software development begin in FY06. Software testing and equipment interoperability testing begin in FY07.

C. Program Change Summary:

(U) Funding	FY 2004	FY 2005	FY 2006	FY 2007
(U) FY 2005 President's Budget Controls	4.466	0.161	2.718	2.263
(U) FY 2006/07 President's Budget Controls	<u>4.355</u>	<u>0.158</u>	<u>2.748</u>	<u>2.314</u>
(U) Total Adjustments	-0.111	-0.003	0.030	0.051
- (U) Summary of Adjustments:				
SBIR	-0.050	0.000	0.000	0.000
Revised Rates & Inflation Indices	0.000	0.000	0.002	0.001
Appn Reductions	-0.050	-0.003	0.000	0.000
Project Corrections/Clean up	0.000	0.000	0.028	0.050
Cancelled Accounts Liability	<u>-0.011</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>
Subtotal	-0.111	-0.003	0.030	0.051
(U) Schedule: Not Applicable				
(U) Technical: Not Applicable				

R-1 SHOPPING LIST - Item No.

174/3

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units			PROJECT NUMBER AND NAME 1980 AMPHIB OTHER C2				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
<u>SACC-A</u>										
OPN Line 098100 Items Under \$5M	0.857	0.855	0.576	0.716	0.787	0.823	0.803	0.826	Con't	Con't
<u>AADS</u>										
OPN Line 5239 SSDS	0	0	11.709	10.535	6.708	5.794	1.717	0	0	36.463

SACC-A: The procurement items for SACC-A include Advanced Field Artillery Tactical Data System (AFATDS), Effect Management Tool (EMT), jam boxes, Automated Distribution Network Systems (ADNS), racks, workstations, Large Screen Color Displays (LSCDs), PICT phones, new Theater Tables, communications devices which will be permanent changeouts to the amphibious ships. These need to be in place in order to permit the connection of the automated SACC capabilities. The operations and maintenance efforts are for program, engineering, and technical support, logistics support and technical assists.

AADS: The procurement items for AADS are related to two subsystems: EPLRS and the ship dependent AN/KSQ-1 hardware configurations. Examples of specific items include RT-1720(c) Enhanced PLRS User Unit (EPUU) digital radios, EPLRS Net Control Station (NCS) workstations and other EPLRS equipment.

E. ACQUISITION STRATEGY:

The SACC-A effort is related to the development and fielding of a Naval Fire Control System (NFCS) that satisfies the requirements of naval and supported forces. The NFCS is to be an ACAT III program under Navy management. The AADS strategy is to develop a software interface to ensure integrated communications and joint operations for joint forces.

F. MAJOR PERFORMERS:

Field Activities & Locations - Work Performed:

- NSWC DD, Dahlgren, VA - Hardware Development, Systems Engineering, Training, ILS, T&E
- NSWC CSS, Panama City, FL - System engineering; NNSY, Norfolk, VA - Technical Data; ARMY - Hardware Development
- NSWC PHD, Port Hueneme, CA - Software Configuration Management

Contractors & Locations - Work Performed:

- PM Effects - Hardware Development
- TBD - Software Development

Universities & Locations - Work Performed - Not applicable.

R-1 SHOPPING LIST - Item No. 174/4

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-7			0204413N/Amphibious Tactical Support Units			1980 / AMPHIB OTHER C2								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development														
Ancillary Hardware Development	WX	SPAWAR		0.755	02/04								0.755	
Aircraft Integration														
Ship Integration	WX	NSWC DD		3.000	12/03	0.011		0.000		0.050		0.270	3.331	
Ship Suitability														
Systems Engineering	WX	NSWC CSS, APL		0.600	12/03			1.800	12/05	1.750	12/06		4.150	
Training Development														
Licenses														
Tooling														
GFE													0.000	
Award Fees														
Subtotal Product Development			0.000	4.355		0.011		1.800		1.800		0.270	8.236	
Development Support													0.000	
Software Development	WX	CSS				0.147	12/04	0.948	12/05	0.514	12/06	1.301	2.910	
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses														
GFE													0.000	
Award Fees														
Subtotal Support			0.000	0.000		0.147		0.948		0.514		1.301	2.910	
Remarks:														

R-1 SHOPPING LIST - Item No. 174/5

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDTE, N / BA-7			0204413N/Amphibious Tactical Support Units			1980 AMPHIB OTHER C2									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation			0.000										0.000		
Operational Test & Evaluation															
Live Fire Test & Evaluation															
Test Assets															
Tooling															
GFE															
Award Fees															
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Contractor Engineering Support													0.000		
Government Engineering Support													0.000		
Program Management Support													0.000		
Travel													0.000		
Transportation															
SBIR Assessment															
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Total Cost			0.000	4.355		0.158		2.748		2.314		1.571	11.146	0.000	
Remarks:															

R-1 SHOPPING LIST - Item No. 174/6

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME															
RDT&E, N / BA-7										0204413N/Amphibious Tactical Support Units										1980/AMPHIB OTHER C2															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Software Development										△	—	—	—	△																					
Systems Engineering										△	—	—	—	—	△																				

R-1 SHOPPING LIST - Item No. 174/7

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0204413N/Amphibious Tactical Support Units				PROJECT NUMBER AND NAME 1980/AMPHIB OTHER C2			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Software Development			1Q - 4Q	1Q, 2Q				
Systems Engineering			1Q - 4Q	1Q - 4Q				

R-1 SHOPPING LIST - Item No. 174/8

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units				PROJECT NUMBER AND NAME 2231 TECHNOLOGY TRANSITION		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.153	0.000	2.020	1.876	1.903	2.365	2.393	2.438
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: TECHNOLOGY TRANSITION (2231) -</p> <p><u>FY06-FY11</u> : Provides for 6.3 research efforts on LCAC Future Naval Capabilities (FNC): Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (STTR), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personal Transport Module (SBIR), Enhanced Skirt Finger Material (FCT), the Lube Oil Cooler (FCT), and the Composite Shroud (FCT).</p>								

R-1 SHOPPING LIST - Item No.

174/9

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units	PROJECT NUMBER AND NAME 2231 / TECHNOLOGY TRANSITION																																																														
B. ACCOMPLISHMENTS/PLANNED PROGRAM <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.153</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">2.020</td> <td style="text-align: center;">1.876</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>LCU:- Analysis of Alternatives (AoA); Commercial designs (Feasibility & Detail designs); Conduct enabling technologies R&D; Model Testing & Simulations (e.g., beaching, seakeeping, survivability); Government Studies & Technical Support; Shipboard interface & interoperability; DoD 5000 Documentation & Program reviews; Contracting & Evaluation support; Programmatic support; Portion of extramural program reserved for Small business innovation Research assessment in accordance with 15 USC 638.</p> <p>TECHNOLOGY TRANSFER - Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (STTR), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personal Transport Module (SBIR), Enhanced Skirt Finger Material (FCT), the Lube Oil Cooler (FCT) and the Composite Shroud (FCT).</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.153	0.000	2.020	1.876	RDT&E Articles Quantity																																																	
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C. Program Change Summary: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%;">FY 2004</th> <th style="width: 15%;">FY 2005</th> <th style="width: 15%;">FY 2006</th> <th style="width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) FY 2005 President's Budget</td> <td style="text-align: center;">1.186</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">1.955</td> <td style="text-align: center;">1.955</td> </tr> <tr> <td>(U) FY 2006/2007 President's Budget</td> <td style="text-align: center;"><u>1.153</u></td> <td style="text-align: center;"><u>0.000</u></td> <td style="text-align: center;"><u>2.020</u></td> <td style="text-align: center;"><u>1.876</u></td> </tr> <tr> <td>(U) Total Adjustments</td> <td style="text-align: center;">-0.033</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.065</td> <td style="text-align: center;">-0.079</td> </tr> <tr> <td> - (U) Summary of Adjustments:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Misc Minor Adjustments</td> <td style="text-align: center;">-0.030</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.001</td> <td style="text-align: center;">0.002</td> </tr> <tr> <td> Programmatic/Other Adjustments</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.064</td> <td style="text-align: center;">-0.081</td> </tr> <tr> <td> Cancelled Accounts Liability</td> <td style="text-align: center;"><u>-0.003</u></td> <td style="text-align: center;"><u>0.000</u></td> <td style="text-align: center;"><u>0.000</u></td> <td style="text-align: center;"><u>0.000</u></td> </tr> <tr> <td></td> <td style="text-align: center;">-0.033</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.065</td> <td style="text-align: center;">-0.079</td> </tr> <tr> <td>(U) Schedule: Not Applicable</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Technical: Not Applicable</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding					(U) FY 2005 President's Budget	1.186	0.000	1.955	1.955	(U) FY 2006/2007 President's Budget	<u>1.153</u>	<u>0.000</u>	<u>2.020</u>	<u>1.876</u>	(U) Total Adjustments	-0.033	0.000	0.065	-0.079	- (U) Summary of Adjustments:					Misc Minor Adjustments	-0.030	0.000	0.001	0.002	Programmatic/Other Adjustments	0.000	0.000	0.064	-0.081	Cancelled Accounts Liability	<u>-0.003</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>		-0.033	0.000	0.065	-0.079	(U) Schedule: Not Applicable					(U) Technical: Not Applicable				
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	-0.033	0.000	0.065	-0.079																																																												
(U) Schedule: Not Applicable																																																																
(U) Technical: Not Applicable																																																																

R-1 SHOPPING LIST - Item No.

174/10

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/Amphibious Tactical Support Units			PROJECT NUMBER AND NAME 2231 / TECHNOLOGY TRANSFER				
D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete
SCN Line 510000 LCU(R)	0	24.947	0	0	0	0	0	0	Total Cost 25.048
E. ACQUISITION STRATEGY:									
LCU - Feasibility studies were conducted to determine the best design to meet Navy requirements for heavy lift utility landing craft and to support a performance specification.									
TECHNOLOGY TRANSFER - RDT&E efforts commence in FY06. Multiple contracts and Field Activities will be involved through FY11 to complete the various projects.									
F. MAJOR PERFORMERS:									
Field Activities & Locations - Work Performed:									
NSWC, Bethesda, MD - System engineering, test and evaluation.									
NSWC (CSS) Panama City, FL - System engineering									
NSWC Philadelphia, PA - Systems engineering									
Contractors & Locations - Work Performed:									
TBD									
Universities & Locations - Work Performed									
Not applicable									

R-1 SHOPPING LIST - Item No. 174/11

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-7			0204413N/Amphibious Tactical Support Units			2231 / TECHNOLOGY TRANSFER								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development														
Ancillary Hardware Development														
Component Development	WX/CPAF	Various						0.150	02/05	0.150	01/07		0.300	
Ship Design														
Ship Suitability														
Systems Engineering	FFP/CPF	Various	2.841					0.565	02/05	0.821	01/07		4.227	
Training Development														
Licenses														
Tooling														
GFE	WX			0.110	06/04								0.110	
Award Fees														
Subtotal Product Development			2.841	0.110		0.000		0.715		0.971		0.000	4.637	
Remarks:														
Development Support	WX	Various	2.067	0.400	03/04			0.700		0.300			3.467	
Software Development														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses	WX	ONR	0.254										0.254	
GFE														
Award Fees														
Subtotal Support			2.321	0.400		0.000		0.700		0.300		0.000	3.721	
Remarks:														

R-1 SHOPPING LIST - Item No. 174/12

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-7			0204413N/Amphibious Tactical Support Units			2231 / TECHNOLOGY TRANSFER									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WX	Various	0.250	0.040	03/04			0.100		0.100		3.950	4.440		
Operational Test & Evaluation	WX	Various	0.029					0.050		0.050			0.129		
Live Fire Test & Evaluation															
Test Assets								0.100		0.100			0.200		
Tooling															
GFE															
Award Fees															
Subtotal T&E			0.279	0.040		0.000		0.250		0.250		3.950	4.769		
Remarks:															
Contractor Engineering Support	FFP	VARIOUS	0.995	0.200	12/03			0.200		0.200		4.263	5.858		
Government Engineering Support	WX	VARIOUS	0.599	0.213	04/04								0.812		
Program Management Support	CPFF	VARIOUS	0.282	0.175	12/03			0.100		0.100		0.550	1.207		
Travel	PD	NAVSEA TRAVEL	0.052	0.015	04/04			0.055		0.055		0.336	0.513		
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			1.928	0.603		0.000		0.355		0.355		5.149	8.390		
Remarks:															
Total Cost			7.369	1.153		0.000		2.020		1.876		9.099	21.517		
Remarks:															

R-1 SHOPPING LIST - Item No. 174/13

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME														PROJECT NUMBER AND NAME											
RDT&E, N / BA-7										0204413N/Amphibious Tactical Support Units														2231 / TECHNOLOGY TRANSFER											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones		MS B △																																	
LCAC S&T Initiatives									△																			△							

R-1 SHOPPING LIST - Item No. 174/14

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0204413N/Amphibious Tactical Support Units				PROJECT NUMBER AND NAME 2231 / TECHNOLOGY TRANSFER			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone B	2Q							
LCAC S&T Initiatives			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 174/15

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CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA7	PROGRAM ELEMENT NAME AND NUMBER 0204413N/Amphibious Tactical Support Units				PROJECT NAME AND NUMBER Amphibious Lighterage Development/2909					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
Project Cost	0.050	3.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.560
RDT&E Articles Qty	N/A	30	N/A	N/A	N/A	N/A	N/A	N/A		

A. Mission Description and Budget Item Justification:
 This project supports development and procurement of technology to develop Navy causeway lighterage. The Improved Navy Lighterage System (INLS) replaces the existing Navy Lighterage (NL) system and supports the US Navy Lighterage recapitalization plan. Current NL will reach the end of its service life and will impact crew safety and operation readiness. INLS will be capable of operations in higher sea states, have a greater service life, and have reduced maintenance costs. INLS will be deployed during Logistic Over The Shore (LOTS) operations, Assault Follow On Echelon (AFOE) operations and Maritime Prepositioning Force (MPF) operations. INLS consists of Warping Tugs, Causeway Ferries, RO/RO Discharge Facilities and Floating Causeway. The design and development for INLS was completed in FY04. Contract for Low Rate Initial Production (LRIP) was awarded in Aug 03. OPEVAL DT/OT will take place 3rd quarter FY05. In addition, INLS Phase III design process continues with the High Speed Ferry Assault Connector (CFFX) in support of the Seabasing concept.

FY2004 Actual: \$0.050 for INLS OPEVAL Support
 FY2005 Plan: \$2.443M for INLS OPEVAL and \$1.067M for CFFX
 FY2006 Plan: Not Applicable
 FY2007 Plan: Not Applicable

	FY2004	FY2005	FY2006	FY2007
INLS OPEVAL	0.050	2.443	0.000	0.000
CFFX	0.000	1.067	0.000	0.000
RDT&E Articles Qty	N/A	30	N/A	N/A

INLS design and development were accomplished in FY2004. Operation and evaluation testing will begin in FY2005.
 CFFX Technology development begins in FY2005.

R-1 SHOPPING LIST - Item No. 174-2

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER								
RDTE&E,N/BA7	0204413N/Amphibious Tactical Support	Amphibious Lighterage Development/2909								
 C. Program Change Summary:										
		FY2004	FY2005	FY2006	FY2007					
FY2005	President's Budget	0.000	2.443	0.000	0.000					
FY2006	President's Budget	0.050	3.510	0.000	0.000					
Total Adjustments		0.050	1.067	0.000	0.000					
 Summary of Adjustments										
Reprogrammings		0.050	0.000	0.000	0.000					
Other Reductions		0.000	-0.033	0.000	0.000					
INLS Congressional Add		0.000	1.100	0.000	0.000					
		0.050	1.067	0.000	0.000					
 D. Other Program Funding Summary (INLS Development)										
	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total Cost
CESE Line 6033 Amphib Equip (OPN)	4.2	11.5	149.7	86.3	104.8	13.9	0.0	0.0	0.0	370.4
(U) Related RDT&E: NA										
 E. Acquisition Strategy (JMLS/INLS): LRIP contract was awarded in Aug 03 with OPN funds. Operation and evaluation testing will begin in FY2005. CFFX technology development will begin in FY05.										
 F. Major Performer:										
Activities & Location	Work Performed									
OPTEVFOR, Norfolk, VA	OPEVAL of LRIP Quantities									
Art Anderson Associates	CFFX Technology Development									

R-1 SHOPPING LIST - Item No. 174-3

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER											
RDT&E,N/BA7			0204413N/Amphibious Tactical Support Unit			Amphibious Lighterage Development/2909											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development														0.000	0.000		
Ancillary Hardware Development														0.000	0.000		
Systems Engineering	RCP	AAA - CA	0.000					1.067	02/05					0.000	1.067		
Licenses															0.000		
Tooling															0.000		
GFE															0.000		
Award Fees															0.000		
Subtotal Product Development			0.000	0.000		0.000		1.067		0.000		0.000		0.000	1.067		
Remarks:																	
Development Support Equipment															0.000		
Software Development															0.000		
Training Development															0.000		
Integrated Logistics Support														0.000	0.000		
Configuration Management															0.000		
Technical Data															0.000		
GFE															0.000		
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:																	

R-1 SHOPPING LIST - Item No. 174-4

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NAME AND NUMBER									
RDT&E,N				0204413N/Amphibious Tactical Support Unit				Amphibious Lighterage Development/2909									
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost				FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation															0.000	0.000	
Operational Test & Evaluation	WR	OPTEVFOR					0.050	03/04	2.443	03/05	\$0.000		0.000		0.000	2.493	
Tooling																0.000	
GFE																0.000	
Subtotal T&E			0.000	0.000			0.050		2.443		0.000		0.000		0.000	2.493	
Remarks:																	
Contractor Engineering Support																0.000	
Government Engineering Support																0.000	
Program Management Support																0.000	
Travel																0.000	
Labor (Research Personnel)																0.000	
Overhead																0.000	
Subtotal Management			0.000	0.000			0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:																	
Total Cost			0.000	0.000			0.050		3.510		0.000		0.000		0.000	3.560	
Remarks:																	

R-1 SHOPPING LIST - Item No. 174-5

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Exhibit R-4, Schedule Profile
(page 20 of 21)

R-1 Shopping List - Item No. 174-6

UNCLASSIFIED

CLASSIFICATION:

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R-1 Shopping List - Item No 174-7

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0204571N Consolidated Training Systems Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	21.900	22.433	42.248	22.952	30.543	21.555	23.928	27.201
1427								
Surface Tactical Team Trainer (STTT)	14.294	8.190	5.771	5.554	5.819	6.067	6.180	6.327
2449								
Distributed Shipboard Trainer	0.959							
3087								
Total Ship Training Capability (TSTC)*	0.289	1.379	16.093	4.360	8.041	6.149	5.578	5.102
0604 Training Range and Instrumentation Development Systems (TRIDS)	2.135	2.031	2.654	2.984	3.800	3.883	4.292	4.095
3093								
Tactical Combat Training System (TCTS)	2.644	9.375	16.288	8.312	11.103	3.639	6.023	9.783
2124								
Air Warfare Training Development (AWTD)	1.579	1.458	1.442	1.742	1.780	1.817	1.855	1.894
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
* In FY 04 and FY 05 just funded NSS Trainers								
The STTT will develop the Battle Force Tactical Training (BFTT) System to provide realistic Combat System level team training including a means to link surface ships together for coordinated Unit and Battle Group level training using Distributed Interactive Simulation (DIS) . The migration of selected modules of the BFTT software to Windows NT from UNIX OS is underway. The Congressional adds initiate the development of the Distributed Shipboard Classroom which provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. The Navigation Seamanship and Shiphandling (NSS) Training System effort develops integrated COTS based navigation and shiphandling trainers to support navigation team training in Fleet Concentration Areas, as well as developing and integrating shipboard virtual reality shiphandling trainers for use onboard surface ships.								
The Training Range and Instrumentation Development Systems (TRIDS) program provides development of many range systems including range electronic warfare simulator, advanced weapons training systems, laser training systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR), Test and Training Enabling Architecture (TENA) interoperability, combat training system improvements and shallow water range technology.								

R-1 SHOPPING LIST - Item No.

175

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 37)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE 0204571N Consolidated Training Systems Development	
<p>The AWTD program provides development of many aviation training systems including mission rehearsal simulation technologies, and the Aviation Training Technology Integration Facility (ATTIF).</p> <p>The TMS encompasses the requirements analysis and software development associated with the Navy's Maritime Development Agent function as part of the Joint Simulation System (JSIMS). The BFTT will develop the BFTT Electronic Warfare Trainer (BEWT) and applicable BFTT system software to provide EW operator and team training for Fleet EW Systems.</p> <p>The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR) system. TCTS will also provide fleet deployable instrumentation for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Initial fielding of a Non-Developmental Item (NDI) Pod system is planned at NAS Key West. The program incorporates an evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and a high capacity/long range secure datalink.</p>		

R-1 SHOPPING LIST - Item No. 175

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 2 of 37)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development				PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	[*] 15.542	[*] 9.569	[*] 21.864	[*] 9.914	[*] 13.860	[*] 12.216	[*] 11.758	[*] 11.429
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Includes project units 1427/3087/2449

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Battle Force Tactical Training (BFTT) Program provides realistic joint warfare training across the spectrum of armed conflict; realistic unit level team training in all warfare areas; a means to link ships together which are in different homeports for coordinated training; external stimulation of shipboard training systems; and simulation of non-shipboard forces. BFTT uses a distributed architecture, integrating existing training systems, and uses Distributed Interactive Simulation (DIS) protocols. BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Stimulators/Simulators (STIM/SIM) provides standardized Radio Frequency (RF), Intermediate Frequency (IF), and/or Digital injection into surface ship radars and fire control systems for training of shipboard operators/teams as part of the BFTT System. BFTT software modules are being migrated from UNIX/TAC to a Windows-NT/PC Operating System (OS). The Distributed Shipboard Classroom provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. It initiates development of the active electronic countermeasures training capability to BEWT and to the BFTT software. NSS Training System effort develops integrated COTS based navigation and shiphandling trainers to support navigation team training in Fleet Concentration Areas, as well as developing and integrating shipboard virtual reality shiphandling trainers for use onboard surface ships. The Total Ship Training Capability (TSTC) addition to BFTT connects combat system, navigation/ship control, engineering/propulsion, and damage control training, simultaneously exercising all primary elements of the crew in realistic combat-like conditions.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)																																
B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>9.567</td> <td>6.661</td> <td>5.771</td> <td>5.554</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>Continue to develop BFTT Link simulation software; develop/integrate new s/w capabilities and system interfaces; develop BG level Display and Debrief software; NTMF integration; BFTT Shore s/w development; Training I/F development for CG47-58 (AEGIS B/L 1 & 2); shock test; debrief s/w development and Fleet Battle Experiments; develop BFTT AIC training for AEGIS; Develop BFTT/TSSS Training on FFG CORTS; CMTpc Integration; Database Architecture & Content Improvements; Common Operating Procedure (COP) for Over The Horizon (OTH) Maritime Data; Common Operating Picture for LAWEX; Fleet Generated Requirements for B/L 2.0/2.1 and Improvements to B/L 2.2 and 2/3; Objective Based Training (Integrated Phase I/II); Readiness Measurement; JSAF Integration into BFTT (1st phase): BFTT-to-Sea (multi-ship demo); database Architecture & Content Improvements; JSAF Modifications for EW (2nd Phase); Database Improvements; AEGIS B/L 7 phase 1C; SQQ-89 Weapons Control; Scenario/Data Management via SIPRNET; Remote Reset of OBTs from BOPC; Improved Data Collection; Integrate Shore Based Aviation Trainers (E-2C, SH-60B, and P3-C). Embedded TBMD Training and JSIMS Integration/engineering will be developed after FY05. All shore based combat system team trainer funding was curtailed in FY94, therefore, BFTT is the Fleets only combat system level team training capability.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>1.451</td> <td>1.548</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 80px;"> <p>Funding is provided for the software development for the Multi-Mission Team Trainer (MMTT) Phase 2. The MMTT Phase I replaced the Device S14A13 Tactical Advanced Simulated Warfare Integrated Trainer (TASWIT), which modernized the outdated software and minimizes the life cycle support costs. Phase 2 replaces the Device 20F15 Tactical Advanced Combat Direction and Electronic Warfare (TACDEW) System, which drastically reduces the life cycle support of the Fleet's combat system level and battle group level team training capability.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	9.567	6.661	5.771	5.554	RDT&E Articles Quantity	N/A	N/A	N/A	N/A		FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.451	1.548	0.000	0.000	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	9.567	6.661	5.771	5.554																														
RDT&E Articles Quantity	N/A	N/A	N/A	N/A																														
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	1.451	1.548	0.000	0.000																														
RDT&E Articles Quantity	N/A	N/A	N/A	N/A																														

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 4 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.959</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.959	0.000	0.000	0.000	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.959	0.000	0.000	0.000															
RDT&E Articles Quantity	N/A	N/A	N/A	N/A															
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"><p>Congress appropriated and authorized funding for development of the Distributed Shipboard Classroom in conjunction with the Battle Force Tactical Training Improvement Program. The Distributed Shipboard Classroom provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. The pilot project will provide on opportunity to assess the acceptance of Sailors and shipboard instructors to utilizing multimedia communications technology to accomplish individual and group training in the 24X7 work day at sea.</p></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.868</td><td style="text-align: center;">0.981</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">NA</td><td style="text-align: center;">NA</td><td style="text-align: center;">NA</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.868	0.981	0.000	0.000	RDT&E Articles Quantity	N/A	NA	NA	NA
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.868	0.981	0.000	0.000															
RDT&E Articles Quantity	N/A	NA	NA	NA															
<div style="border: 1px solid black; padding: 10px; min-height: 80px;"><p>Funding is being provided specifically for TOMAHAWK operator and team training development and integration into BFTT.</p></div>																			

R-1 SHOPPING LIST - Item No. 175

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)																	
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.408	0.000	0.000	0.000															
RDT&E Articles Quantity	N/A	N/A	N/A	N/A															
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"><p>This funding supports the integration of Battle Force Tactical Training (BFTT) with the Total Ship Training Systems components. The efforts that will be accomplished are software engineering, interface specification, development, integration and testing, as well as systems engineering.</p></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.289</td><td style="text-align: center;">0.379</td><td style="text-align: center;">16.093</td><td style="text-align: center;">4.360</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">NA</td><td style="text-align: center;">NA</td><td style="text-align: center;">N/A</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.289	0.379	16.093	4.360	RDT&E Articles Quantity	N/A	NA	NA	N/A
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.289	0.379	16.093	4.360															
RDT&E Articles Quantity	N/A	NA	NA	N/A															
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"><p>The Total Ship Training Capability (TSTC) connects combat system, navigation/ship control, engineering/propulsion, and damage control training, simultaneously exercising all primary elements of the crew in realistic combat-like conditions. TSTC is inclusive of the Navigation Seamanship & Shiphandling Trainer (NSST); Engineering Operations & Casualty Control Trainer (EOCCT); Combat System Casualty Control Trainer (CSCCT); Damage Control Training & Management System (DCTMS); Training Exercise & Management System (TEAMS); Virtual At-Sea Trainer (VAST); and the Augmented Reality Fire Fighting Trainer (ARFF). TSTC efforts include system/software engineering, software design, software development, system integration and test.</p></div>																			

R-1 SHOPPING LIST - Item No. 175

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	15.785	8.657	6.118	5.606
FY06 President's Budget	15.542	9.569	21.864	9.914
Total Adjustments	-0.243	0.912	15.746	4.308
Summary of Adjustments				
Inflation	-0.001	0.000	0.000	0.000
FY04 SBIR	-0.205	0.000	0.000	0.000
Program Adjustments	0.000	-0.002	-0.554	0.012
Section 8105/8122/8131	0.000	-0.086	0.000	0.000
Cancelled Accounts	-0.037	0.000	0.000	0.000
Total Ship Training Sys Fielding, Integration & Support	0.000	1.000	16.300	4.296
Subtotal	-0.243	0.912	15.746	4.308
Schedule:				
Not Applicable.				
Technical:				
Not Applicable.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development			PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 276200 (Surface BFTT/TSTC portion only)	32.386	35.571	57.313	39.57	48.188	35.211	38.322	29.456	0	316.017
E. ACQUISITION STRATEGY:										
The BFTT acquisition strategy for system development utilizes the spiral development model, as mandated by OSD. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with the BFTT ACAT IVM Milestone III approved documentation.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-7			0204571N Consolidated Training Systems Development				1427 Surface Tactical Team Trainer (STTT) (22449/29106/29107/S3087)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development		AAI/MD & EWA/WV/ Govworks	11.498					1.163		1.119	TBD		13.780	13.780
Ancillary Hardware Development	*	NSWC Crane/ Govworks	0.999					1.163		1.120	TBD		3.282	3.282
Component Development													0.000	
Ship Integration								0.291		0.279	TBD		0.570	
Ship Suitability													0.000	
Systems Engineering	*	CDSA/NSWC Crane/ Govworks/NAVSESS	20.795	2.736	01/04	1.135	01/05	2.790	01/06	0.923	TBD	Continuing	Continuing	N/A
Training Development				0.000		0.000							0.000	
Licenses	*	CDSA/NSWC Crane/ Govworks	2.342	1.321	01/04	0.142	01/05						3.805	N/A
Tooling													0.000	
GFE			2.497									0.000	2.497	2.497
Award Fees			0.357									0.000	0.357	0.357
Subtotal Product Development			38.488	4.057		1.277		5.407		3.441		Continuing	Continuing	
Remarks:														
*WX/RX/RCP/IPR														
Development Support													0.000	
Software Development	*	NAWC/NAVSESS TSD/CDSA/Govworks/	41.698	7.936	01/04	6.488	01/05	10.283	01/06	4.389	TBD	Continuing	Continuing	N/A
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data	*	NAWC TSD/NSWC Crane/Govworks	9.657	1.415	01/04	0.946	01/05						12.018	N/A
GFE													0.000	
Award Fees													0.000	
Subtotal Support			51.355	9.351		7.434		10.283		4.389		Continuing	Continuing	
Remarks:														
*WX/RX/RCP/IPR														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 37)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0204571N Consolidated Training Systems Development			PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (22449/29106/29107/S3087)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	*	NSWC Crane/NAWC TSD/ CDSA/Govworks/NAVSESS	4.242	1.227	01/04	0.426	01/05	4.174	01/06	1.505	TBD	Continuing	Continuing	N/A
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			4.242	1.227		0.426		4.174		1.505		Continuing	Continuing	N/A
Remarks: *WX/RX/RCP/IPR														
Contractor Engineering Support													0.000	
Government Engineering Support	*	CDSA/NSWC Crane/ Govworks/NAVSESS	3.408	0.907	01/04	0.432	01/05	2.000	01/06	0.579	TBD	Continuing	Continuing	N/A
Program Management Support													0.000	
Travel													0.000	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			3.408	0.907		0.432		2.000		0.579		Continuing	Continuing	N/A
Remarks: *WX/RX/RCP/IPR														
Total Cost			97.493	15.542		9.569		21.864		9.914		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development			PROJECT NUMBER AND NAME 0604 Training Range and Instrumentation Development (TRID)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.135	2.031	2.654	2.984	3.800	3.883	4.292	4.095
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops specialized instrumentation systems for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: electronic warfare simulators and associated subsystems, target control systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR) improvements, Test and Training Enabling Architecture (TENA) interoperability, combat training systems improvements, underwater technology, ranges interoperability and information architecture, and assorted Advanced Weapons Training Systems (AWTS), such as Imaging Weapons Training System (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.</p>								

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Exhibit R-2a, RD TEN Budget Item Justification
(Exhibit R-2a, page 11 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 0604 Training Range and Instrumentation Development (TRID)		
(U) B. Accomplishments/Planned Program				
Large Area Tracking Range (LATR)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.029	1.023	1.518	1.589
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>Developed Block 4.0 software upgrade, analyzed range integration requirements, and developed hardware upgrades. Redesigned, integrated and tested modules to eliminate obsolete components on the LATR power conditioner. Completed operational test and evaluation and integration of Block 4.0 software upgrade. Complete design, integration and test of LATR Block software 5.0/5.1 baseline upgrade. Complete design, integration, and test of participant instrumentation packages (PIP) modules to address obsolescence, high failure components and to improve operability and performance. Conduct and complete vulnerability testing of the Ground System Rehost. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehost. Initiate and complete development, test and integration of software and hardware modifications to system test sets. Develop interface software using Test and Training Enabling Architecture (TENA) to increase Tactical Training Range systems interoperability with other services training instrumentation.</p> </div>				
Combat Training Systems Development	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.106	1.008	1.136	1.395
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>Developed additional training capabilities for the Control and Computational Subsystem (CCS), Personal Computer Based Joint Display Subsystem (JDS), and developed a formalized interface between the CCS and Large Area Tracking Range (LATR). Complete Semi-annual CCS Block upgrades. Complete Test Set Upgrade and system rehost. Complete formalization of CCS/LATR integration. Develop stand alone Electronic Warfare Processor (EW PROC). Enhance capability for Advanced Systems Operator Console (ASOC), Tactical Aircrew Combat Training System Communication Protocol Analyzer (TCPA) and enhanced Radar Display Subsystem (RADS).</p> </div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 0604 Training Range and Instrumentation Development (TRID)		

(U) C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	2.216	2.050	2.128	2.616
FY06 President's Budget	2.135	2.031	2.654	2.984
Total Adjustments	-0.081	-0.019	0.526	0.368
Summary of Adjustments				
Congressional undistributed reductions		-0.019		
SBIR/STTR Transfer	-0.008			
Program Adjustments			0.507	0.308
Economic Assumptions			0.019	0.060
Reprogrammings	-0.073			
	-0.081	-0.019	0.526	0.368

Schedule: The following milestones have changed to better reflect program status:

FROM: LATR GPS OT&E 2Q/05 LATR ADIU OT&E 2Q/05 JDS IOC 1Q/04 LATR/TACTS INTERFACE 3Q/04	TO: LATR GPS REC UPGRADE 4Q/05 LATR ADIU UPGRADE 4Q/05 JDS IOC 1Q/05 LATR/TACTS INTERFACE 3Q/05	ADD: LATR RECERTIFICATION 3Q/06 BLOCK 5.1 UPGRADE 3Q/05 ASOC UPGRADE 1Q/05 EW PROCESSOR: PDR 1Q/05 CDR 4Q/05 T&E 2Q/06 IOC 4Q/06 SEMI-ANNUAL BLK UPGRADE IOC 4Q/07	TACTS/COM PRO ANAL: PDR 1Q/05 CDR 4Q/05 T&E 2Q/06 IOC 4Q/06 RADAR DISPLAY SUBSYSTEM: PDR 1Q/05 CDR 4Q/05 T&E 2Q/06 IOC 4Q/06
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Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development			PROJECT NUMBER AND NAME 0604 Training Range and Instrumentation Development (TRID)																										
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">Related OPN: Weapons Range Support Equipment BLI 420400</td> <td style="text-align: center; padding-top: 10px;">1.200</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-top: 20px;">E. ACQUISITION STRATEGY:</p> <p style="margin-top: 10px;">The Training Range and Instrumentation Development (TRID) program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include contractors whose products and services are obtained by means of competitive awards, Indefinite Deliveries/Indefinite Quantity (IDIQ), and cost-type contracts. Individual delivery orders are awarded for specific development efforts.</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	Related OPN: Weapons Range Support Equipment BLI 420400	1.200									
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
Related OPN: Weapons Range Support Equipment BLI 420400	1.200																														

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)							DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N / BA-7			0204571N Consolidated Trai		0604 Training Range and Instrumentation Development (TRID)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering and Software Hdw Development (Misc. < \$1M)	Various	Various	82.995	1.455	1Q/05	1.460	1Q/06	1.749	1Q/07	Continuing	Continuing	
Subtotal Product Development			82.995	1.455		1.460		1.749		Continuing	Continuing	
Remarks:												
Development Support (Misc. <\$1M)	Various	Various	10.377	0.551	1Q/05	1.169	1Q/06	1.210	1Q/07	Continuing	Continuing	
Subtotal Support			10.377	0.551		1.169		1.210		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)							DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0204571N Consolidated Train		PROJECT NUMBER AND NAME 0604 Training Range and Instrumentation Development (TRID)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (Misc. <\$1M)	Various	Various	5.145	0.015	1Q/05	0.015	1Q/06	0.015	1Q/07	Continuing	Continuing	
Subtotal T&E			5.145	0.015		0.015		0.015		Continuing	Continuing	
Remarks:												
Program Management Support	Various	Various	2.877	0.010	1Q/05	0.010	1Q/06	0.010	1Q/07	Continuing	Continuing	
Travel												
SBIR												
Subtotal Management			2.877	0.010		0.010		0.010		Continuing	Continuing	
Remarks:												
Total Cost			101.394	2.031		2.654		2.984		Continuing	Continuing	
Remarks:												

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Exhibit R-3, RDTE Budget Item Justification
(Exhibit R-3, page 16 of 37)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE:												
Large Area Tracking Range (LATR)																				February 2005												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																	
RDT&E, N / BA-7					0204571N Consolidated Training Systems Development										0604 (TRID) Large Area Tracking Range																	
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
LATR GPS REC UPGRADE																																
LATR ADIU UPGRADE																																
LATR Recertification																																
Block 5.0 LATR Upgrade																																
Block 5.1 LATR Upgrade																																
Deliveries																																

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, RD TEN Budget Item Justification
(Exhibit R-4, page 17 of 37)

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CLASSIFICATION:

[illegible]

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Exhibit R-4a, RD TEN Budget Item Justification
(Exhibit R-4a, page 18 of 37)

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EXHIBIT R4, Schedule Profile																	DATE:																
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME																	PROJECT NUMBER AND NAME																
RDT&E, N / BA-7					0204571N Consolidated Training Systems Development									0604 (TRID) Combat Training Systems Development																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition Milestones																																	
JDS IOC																																	
Semi-Annual Blk Upgrades																																	
LATR/TACTS Interface																																	
Test Set Rehost Dev																																	
PDR																																	
CDR																																	
T&E																																	
IOC																																	
EW Processor																																	
PDR																																	
CDR																																	
T&E																																	
IOC																																	
ASOC Upgrade																																	
TACTS Com Pro Anal																																	
PDR																																	
CDR																																	
T&E																																	
IOC																																	
Radar Display Subsystem																																	
PDR																																	
CDR																																	
T&E																																	
IOC																																	
Deliveries																																	

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:			
Combat Training Systems Development						February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development				0604 (TRID) Combat Training Systems Development				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
JDS IOC	1Q-4Q	1Q							
Semi-annual Block Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q					
LATR/TACTS Interface	1Q-4Q	1Q-3Q							
Test Set Rehost	1Q-4Q	1Q							
PDR	1Q								
CDR	3Q								
T&E	4Q	1Q							
IOC		1Q							
EW Processor									
PDR		1Q-3Q							
CDR		4Q	1Q-2Q						
T&E			2Q-4Q						
IOC			4Q						
ASOC Upgrade		1Q-4Q	1Q-4Q						
TACTS Com Pro Anal									
PDR		1Q-3Q							
CDR		4Q	1Q-2Q						
T&E			2Q-4Q						
IOC			4Q						
Radar Display Subsystem									
PDR		1Q-3Q							
CDR		4Q	1Q-2Q						
T&E			2Q-4Q						
IOC			4Q						

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Exhibit R-4a, RD TEN Budget Item Justification
(Exhibit R-4a, page 20 of 37)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development				PROJECT NUMBER AND NAME 3093 Tactical Combat Training System (TCTS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.644	9.375	16.288	8.312	11.103	3.639	6.023	9.783
RDT&E Articles Qty	4	2	1	1				

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Combat Training System will provide the Navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR) system. TCTS will also provide fleet deployable training for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Initial fielding of a Non-Developmental Item (NDI) Pod system is planned at NAS Key West. The program incorporates an evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and a high capacity/long range secure data link.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 3093 Tactical Combat Training System (TCTS)															
B. Accomplishments/Planned Program																	
<table border="1"><tr><td>Tactical Combat Training System</td><td>FY 04</td><td>FY 05</td><td>FY 06</td><td>FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>2.644</td><td>9.375</td><td>16.288</td><td>8.312</td></tr><tr><td>RDT&E Articles Quantity</td><td>4</td><td>2</td><td>1</td><td>1</td></tr></table>			Tactical Combat Training System	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.644	9.375	16.288	8.312	RDT&E Articles Quantity	4	2	1	1
Tactical Combat Training System	FY 04	FY 05	FY 06	FY 07													
Accomplishments/Effort/Subtotal Cost	2.644	9.375	16.288	8.312													
RDT&E Articles Quantity	4	2	1	1													
<p>Qualify and complete the NDI Rangeless Pod system for use at small range. Develop and deliver Integrated Logistics products for fielding the NDI pod at NAS Key West. Develop F/A-18 (C/D/E/F) Internal Subsystem (IS). Initiate testing of TCTS system for deployed airwing training. Initiate development of instrumentation package for rotary wing and transport aircraft. Develop and implement track exchange interface between TCTS live monitor and TACTS Control and Computation Subsystem (CCS). Define Test and Training Enabling Architecture (TENA) compliant interface between TCTS and an Advance Display System. Develop and deliver Integrated Logistics products for the IS and for fielding the TCTS system aboard deployed carriers. Develop data link uplink control for the live monitor systems. Initiate development of Fixed Ground Subsystem (FGS) for use at large ranges.</p>																	

R-1 SHOPPING LIST - Item No. 175

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Exhibit R-2a, RDTEN Budget Item Justification
(Exhibit R-2a, page 22 of 37)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME 3093 Tactical Combat Training System (TCTS)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget	2.819	9.461	16.165	8.563
FY06 President's Budget	2.644	9.375	16.288	8.312
Total Adjustments	-0.175	-0.086	0.123	-0.251
Summary of Adjustments				
Congressional undistributed reductions		-0.084		
SBIR/STTR Transfer	-0.059			
Program Adjustments		-0.002	-0.031	-0.393
Economic Assumptions			0.154	0.142
Reprogrammings	-0.116			
Subtotal	-0.175	-0.086	0.123	-0.251

Schedule: The following milestones have changed to better reflect program status:

<p style="text-align: center;">From:</p> <p>Phase 3 Fixed Range (FGS, RS, CGTS) FY04 4Q</p> <p>Phase 3 MS B FY05 3Q</p> <p>Phase 4 Advanced Datalink FY06 1Q/4Q</p> <p>Phase 1 DT FY04 4Q</p> <p>Keywest IOC FY05 4Q</p> <p>Beaufort IOC FY09 1Q</p> <p>Phase 2 DTB2-1, 2-2A, 2B, 2-3, 2-4, 2-5, OTC2-1 FY05 3Q - FY06 1Q</p> <p>IOC Lemoore FY07 2Q</p> <p>IOC CVW-5 FY06 1Q</p> <p>IOC Oceana FY07 3Q</p> <p>IOC Yuma FY09 3Q</p> <p>IOC Cherry PT FY09 4Q</p> <p>Technical: Not Applicable</p>	<p style="text-align: center;">To:</p> <p>Phase 3 Fixed Range (FGS, RS, CGTS) FY05 3Q/4Q</p> <p>Phase 3 MS B FY06 1Q</p> <p>Phase 4 Advanced Datalink FY06 2Q/4Q</p> <p>Phase 1 DT FY05 1Q</p> <p>Keywest IOC FY05 3Q</p> <p>Beaufort IOC FY08 4Q</p> <p>Phase 2 DTB2-1, 2-2A, 2B, 2-3, 2-4, 2-5, OTC2-1 FY05 2Q - FY07 1Q</p> <p>IOC Lemoore FY08 4Q</p> <p>IOC CVW-5 FY07 1Q</p> <p>IOC Oceana FY09 1Q</p> <p>IOC Yuma FY07 3Q</p> <p>IOC Cherry PT FY09 3Q</p>
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development			PROJECT NUMBER AND NAME 3093 Tactical Combat Training System (TCTS)				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	To Complete	Total Cost
Related OPN: Weapons Range Support Equipment, LI 4204	1.188	2.291	3.780	8.402						
Related APN: Other Production Charges, LI 0725	7.205	8.475	15.064	19.458						

E. ACQUISITION STRATEGY:

TCTS will employ an evolutionary acquisition strategy to procure a base Non-Developmental Item System and evolutionary development of the system to meet the full ORD requirements. TCTS will be a cooperative program with the USAF P5 CTS program. The USAF awarded a 10-year contract in June 2003.

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)							DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDTE&E, N / BA-7			0204571N Consolidated Trai		3093 Tactical Combat Training System (TCTS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Dev. Electronics	CPIF	Cubic, San Diego	1.783	2.184	1Q/05	0.931	1Q/06			1.340	6.238	6.238
Subtotal Product Development			1.783	2.184		0.931		0.000		1.340	6.238	
Remarks:												
Software Dev. Electronics	CPIF	Cubic, San Diego		3.451	1Q/05	5.508	1Q/06	2.997	1Q/07	18.184	30.140	30.140
Integrated Logistics Support	Various	Various	0.230	0.631	1Q/05	1.123	1Q/06	0.575	1Q/07	Continuing	Continuing	
Subtotal Support			0.230	4.082		6.631		3.572		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 175

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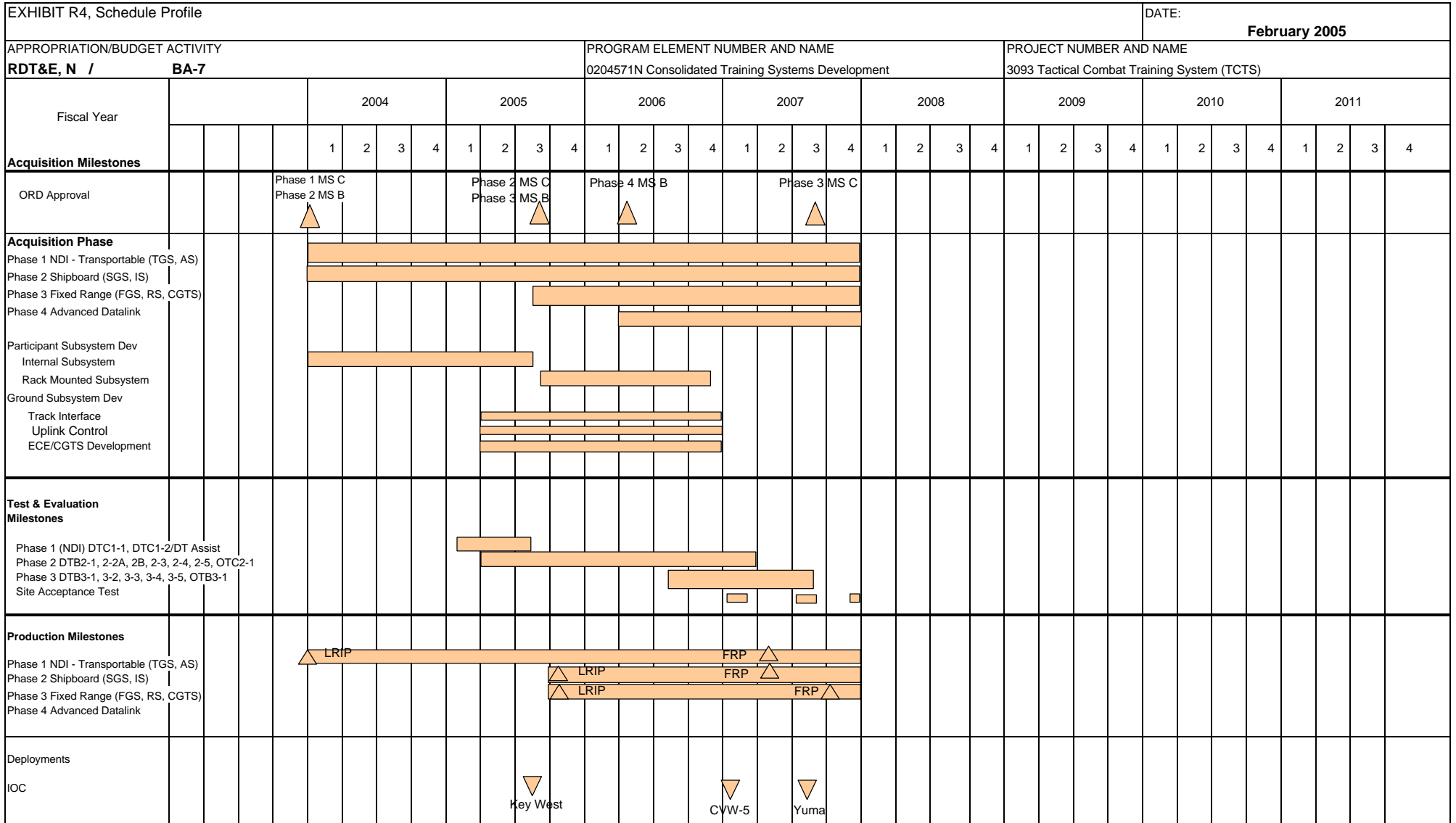
CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204571N Consolidated Train		PROJECT NUMBER AND NAME 3093 Tactical Combat Training System (TCTS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (Misc. <\$1M)	WX	NAWCAD, Pax River, MD	0.082	0.772	1Q/05	3.288	1Q/06	1.486	1Q/07	Continuing	Continuing	
Test Assets												
Subtotal T&E			0.082	0.772		3.288		1.486		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	CPIF	Cubic, San Diego	0.040	0.207	1Q/05	1.215	1Q/06	0.978	1Q/07	6.061	8.501	8.501
Government Engineering Support	WX	NAWCAD, Pax River, MD	0.267	1.730	1Q/05	3.744	1Q/06	1.954	1Q/07	Continuing	Continuing	
Program Mangement Support	WX	NAWCAD, Pax River, MD	0.187	0.310	1Q/05	0.318	1Q/06	0.210	1Q/07	Continuing	Continuing	
Travel		NAWCAD, Pax River, MD	0.055	0.090	1Q/05	0.161	1Q/06	0.112	1Q/07	Continuing	Continuing	
Subtotal Management			0.549	2.337		5.438		3.254		Continuing	Continuing	
Remarks:												
Total Cost			2.644	9.375		16.288		8.312		Continuing	Continuing	
Remarks:												

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-7	0204571N Consolidated Training Systems Development				3093 Tactical Combat Training System (TCTS)			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ORD Approval								
Phase 1 NDI - Transportable (TGS, AS)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Phase 2 Shipboard (SGS, IS)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Phase 3 Fixed Range (FGS, RS, CGTS)		3Q-4Q	1Q-4Q	1Q-4Q				
Phase 4 Advanced Datalink			2Q-4Q	1Q-4Q				
Phase 1 MS C	1Q							
IOC Key West		3Q						
Phase 2 MS B	1Q							
Phase 2 MS C		3Q						
IOC CVW-5				1Q				
Phase 3 MS B		3Q						
Phase 3 MS C				3Q				
IOC Yuma				3Q				
Phase 4 MS B			2Q					
Phase 1 DT/OT		1Q-3Q						
Phase 2 DT/OT		2Q-4Q	1Q-4Q	1Q				
Phase 3 DT/OT			3Q-4Q	1Q-3Q				

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Exhibit R-4a, RD TEN Budget Item Justification
(Exhibit R-4a, page 28 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development				PROJECT NUMBER AND NAME 2124/Air Warfare Training Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.579	1.458	1.442	1.742	1.780	1.817	1.855	1.894
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project transitions new training system technologies for use in naval aviation training. Products from this effort are directly tied to the Navy and Marine Corps Aviation Simulation Master Plans (\$479M), the MH-60R/S master plan, the Multi-Mission Maritime Aircraft (MMA) program, and will support the development and design of future naval aviation training/mission rehearsal systems. Tasks include: 1) Advanced training systems specification development to provide for modular, High Level Architecture (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities, ashore and afloat. Mission rehearsal is defined as the practice of planned tasks and functions critical to mission success using a true-to-life, interactive representation of the expected operating environment. Technologies to be developed and integrated include: 1) DMT weapons server, weather server, common mission training stations, high resolution helmet mounted, and/or flat panel displays, photographic quality image generation, portable source initiative (PSI) database reuse, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based IR stimulations; and 2) the Aviation Training Technology Integration Facility (ATTIF), which is a man-in-the-loop test bed for the integration of software, hardware, and networked systems. New technologies will include intelligent computer generated forces (CGFs) as virtual and constructive entities for threat or friendly interaction. Additionally, "man-in-the-loop" intelligent agents will be integrated to the ATTIF, including an HLA node for participation and benchmarking fleet exercises in the synthetic battle space. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation, and fine tuning of new and innovative technologies before final transition to the Fleet. Debrief/AAR and intelligent training support tools are focused on human performance enhancements for Fleet readiness and distributed mission training exercises.

Metrics - These technology transitions will both lower total ownership costs (TOC) of the training systems (life-cycle visual system database re-use, reduced instructor manning profiles, software-based fidelity enhancements), and increase fleet readiness by enhancing overall system fidelity to the projected operating environments. NASMP/MCSMP readiness improvements are conservatively forecast at 14-28% following associated technology upgrades to stand alone, or networked simulators.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME 2124/Air Warfare Training Development		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.562	0.364	0.340	0.431
RDT&E Articles Quantity				
<p>Develop and integrate ATTIF modular architecture components for Navy DMT, deployable E-2C crew station, intelligent synthetic forces, and tactical scenario control. Demonstrate low-cost DMT configurations, while maintaining or increasing fidelity. Demonstrate low cost training and mission rehearsal configurations and evaluate variable fidelity cockpits. Demonstrate instructor support technology including advanced scenario generation, multi-SAF control, automated measures of performance (MOP), and debrief/AAR products for NASMP. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, while reducing training system life cycle costs.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.476	0.517	0.380	0.340
RDT&E Articles Quantity				
<p>Integrate IR (NVG & Forward Looking Infra-Red (FLIR) sensor simulation)) with Sensor Host government software. Perform risk reduction, integration and productization of Sensor host for Navy DMT and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, and develop PSI/RSD specifications for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Develop texture storage, PSI material reference processes/standards, and automated applications for R/T publishing, R/T shadows, R/T combat effects, and very high resolution visuals.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.344	0.275	0.350	0.502
RDT&E Articles Quantity				
<p>Develop/specify and evaluate intelligent training support tools (ITST) for application to NASMP, MH-60R, MMA, and large scale coalition-level battle exercises. Specify, test and integrate human performance-centered design into NASMP common components, the ATTIF/DMT testbed, and deployable systems. Develop automated performance measurement and after-action review (AAR) specifications and products that increase instructor efficiency and training efficacy in a reduced instructor manning environment.</p>				

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Exhibit R-2a, RDTEN Budget Item Justification
(Exhibit R-2a, page 30 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME 2124/Air Warfare Training Development		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.197	0.302	0.372	0.469
RDT&E Articles Quantity				
<p>Provide for upgraded and modular Mission Training Station (MTS) designs to lower NASMP/platform simulator life-cycle costs, improve instructor effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate ATTIF modular architecture components for F/A-18 cockpit avionics, MH-60R avionics, intelligent instructor operator agents, small footprint E-2C, TACAIR/MMA common GUI initiatives, and intelligent synthetic forces. Upgrade common IOS/MTS human interface to be Joint Mission Planning System (JMPS) compatible, next generation threat system (NGTS) compatible, MCSMP TEN compatible, and JSAF compatible, thereby maximizing ROI for mission training station-related technology investments for multi-platform exercises.</p>				

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Exhibit R-2a, RDTEN Budget Item Justification
(Exhibit R-2a, page 31 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME 2124/Air Warfare Training Development		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget	1.640	1.476	1.509	1.820
FY06 President's Budget	1.579	1.458	1.442	1.742
Total Adjustments	-0.061	-0.018	-0.067	-0.078
Summary of Adjustments				
Congressional undistributed reductions		-0.018		
SBIR/STTR Transfer	-0.030			
Program Adjustments			-0.096	-0.101
Economic Assumptions			0.029	0.023
Reprogrammings	-0.031			
Subtotal	-0.061	-0.018	-0.067	-0.078

Schedule:

MTS/Common Instructor Operator Station specifications will slip from FY04 to FY05. Visual display solutions for deployed simulation will slip from FY06 to FY07. Schedule slip due to budget reductions.

Technical: Not applicable.

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Exhibit R-2a, RD TEN Budget Item Justification
(Exhibit R-2a, page 32 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development			PROJECT NUMBER AND NAME 2124/Air Warfare Training Development																																					
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: right; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: right; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>APN Line 24. BA-7 BLI 0705 Common Ground Equipment (USMC Federation Simulators)</td> <td style="text-align: right;">3.453</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">19.753</td> <td style="text-align: right;">31.616</td> <td style="text-align: right;">23.829</td> <td style="text-align: right;">39.629</td> <td style="text-align: right;">32.993</td> <td style="text-align: right;">31.723</td> <td></td> <td></td> </tr> <tr> <td>APN Line 17. BA-7 BLI 0705 Common Ground Equipment (Fleet Aircrew Simulator Training (FAST))</td> <td style="text-align: right;">29.819</td> <td style="text-align: right;">64.034</td> <td style="text-align: right;">94.997</td> <td style="text-align: right;">55.359</td> <td style="text-align: right;">58.375</td> <td style="text-align: right;">59.422</td> <td style="text-align: right;">62.472</td> <td style="text-align: right;">59.269</td> <td></td> <td></td> </tr> </tbody> </table> <p>Related RDT&E (U) P.E. 0604245N, Project # H2279, Sub-Project Title: USMC H-1 Upgrades</p> <p>E. ACQUISITION STRATEGY:</p> <p>Air Warfare Training Development (AWTD) is a joint 6.4 R&D technology transition team, tied closely to the Navy and Marine Corps Aviation Simulation Master Plans. A true, multidisciplinary, joint Integrated Product Team (IPT) approach is utilized through a combination of reimbursable and direct cite/MIPR contract processes to accomplish the IPT's principal objectives. These technology transitions continue to successfully target improvements in fleet readiness, and reductions in total system life cycle costs. AWTD R&D investment directly supports achievement of cost-wise readiness metrics for the Naval Aviation Training enterprise team.</p>											Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	APN Line 24. BA-7 BLI 0705 Common Ground Equipment (USMC Federation Simulators)	3.453	0.000	19.753	31.616	23.829	39.629	32.993	31.723			APN Line 17. BA-7 BLI 0705 Common Ground Equipment (Fleet Aircrew Simulator Training (FAST))	29.819	64.034	94.997	55.359	58.375	59.422	62.472	59.269		
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																																	
APN Line 24. BA-7 BLI 0705 Common Ground Equipment (USMC Federation Simulators)	3.453	0.000	19.753	31.616	23.829	39.629	32.993	31.723																																			
APN Line 17. BA-7 BLI 0705 Common Ground Equipment (Fleet Aircrew Simulator Training (FAST))	29.819	64.034	94.997	55.359	58.375	59.422	62.472	59.269																																			

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204571N/Consolidated Training Systems Development			2124/Air Warfare Training Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Air Force Research Lab	2.772	0.506	11/04	0.368	11/05	0.349	11/06	Continuing	Continuing	
Systems Engineering	WX/PID	NAWCTSD & NAMRL	5.104	0.577	01/05	0.672	01/06	0.982	01/07	Continuing	Continuing	
Systems Engineering	MIPR	ONR	0.120								0.120	
Systems Engineering	WX	NAWCWD, CA	0.753								0.753	
Systems Engineering	MIPR	USAF ACADEMY	0.040								0.040	
Systems Engineering	WR	NPGS	0.090								0.090	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			8.879	1.083		1.040		1.331		Continuing	Continuing	
Remarks:												
Trainer Development Support	RX/PID	NAWCAD, Pax River, MD	0.857	0.166	11/04	0.169	11/05	0.171	11/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.857	0.166		0.169		0.171		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0204571N/Consolidated Training Systems Development			PROJECT NUMBER AND NAME 2124/Air Warfare Training Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prototype Test & Evaluation	WX	NAWCAD, Pax River, MD	4.269	0.202	01/05	0.218	11/05	0.220	11/06	Continuing	Continuing	
Prototype Test & Evaluation	WX	NCTAMSLANT	0.564								0.564	
Subtotal T&E			4.833	0.202		0.218		0.220		Continuing	Continuing	
Remarks:												
Travel	WX	NAWCAD, Pax River, MD	0.164	0.007	11/04	0.015	11/05	0.020	11/06	Continuing	Continuing	
Subtotal Management			0.164	0.007		0.015		0.020		Continuing	Continuing	
Remarks:												
Total Cost			14.733	1.458		1.442		1.742		Continuing	Continuing	
Remarks:												

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Exhibit R-3, RDTE&E Budget Item Justification
(Exhibit R-3, page 35 of 37)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME																
RDT&E, N / BA-7				0204571N/Consolidated Training Systems Development																2124/Air Warfare Training Development																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
NASMP																																				
Acquisition 6.4 RDT&E Milestones				TRANSITION TO NASMP				TRANS. TO NASMP					TRANS. TO NASMP & MH-60R				TRANS. TO NASMP																			
ATTIF MOD Architecture																																				
ATTIF Integr. & modifications																																				
Software (specifications & GOTS)	Baseline																																			
Weapons Server Software																																				
NGTS Common GUI																																				
C-DMTS (ATTIF Integr.) (3)																																				
Intelligent Trng Support Tools (Maritime)																																				
Test & Evaluation																																				
Milestones																																				
WEAPS server Oceana/Lemoore																																				
WEAPS Server Maritime (Base/H-60R)																																				
C-DMTS Spec/Demo																																				
ITST AAR toolset DEMO																																				
Sensor stimulation (3)																																				
Sensor Host Specs (2)																																				
Combat/Environ. effects																																				
Helmet-mounted																																				
cueing w/sensor fusion																																				
Super resolution IGs w/sensors																																				
Deployed SIMS (DMT/Sensor capable)																																				
MMA/NUCAV JSF DMT specs/Demo																																				
Production Milestones																																				
N/A See above																																				
transitions to NASMP																																				

R-1 SHOPPING LIST - Item No. 175

UNCLASSIFIED

Exhibit R-4, RDTEN Budget Item Justification
(Exhibit R-4, page 36 of 37)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 175

UNCLASSIFIED

Exhibit R-4a, RD TEN Budget Item Justification
(Exhibit R-4a, page 37 of 37)

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /					R-1 ITEM NOMENCLATURE PE 0204574N Cryptologic Direct Support			
BA 7								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	1.418	1.442	1.422	1.419	1.435	1.469	9.580	11.975
3091 / Advanced Cryptologic Systems Engineering	1.417	1.442	1.422	1.419	1.435	1.426	9.580	11.975
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Advanced Cryptologic Systems Engineering program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the necessary and proper resources to enable rapid transition of available Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually requires some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard LANs, and tested relative to interoperability requirements. Additionally, the future Maritime Cryptologic Architecture (MCA) realized under Ships Signals Exploitation Equipment (SSEE) Increment E and subsequent increments will be procured under Cryptologic Carry-On Equipment as a future carry-on Advanced Cryptologic Carry-on Equipment (ACCES) system starting in FY04. This RDT&E will provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of both ACCES and all other carry-on subsystems to meet emergent requirements.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under BA-7, OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.</p>								

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support				PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.417	1.442	1.422	1.419	1.435	1.426	9.580	11.975
RDT&E Articles Qty								
<p>(U) (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Advanced Cryptologic Systems Engineering program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the necessary and proper resources to enable rapid transition of available Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually requires some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard LANs, and tested relative to interoperability requirements. Additionally, the future Maritime Cryptologic Architecture (MCA) realized under Ships Signals Exploitation Equipment (SSEE) Increment E and subsequent increments will be procured under Cryptologic Carry-On Equipment as a future carry-on Advanced Cryptologic Carry-on Equipment (ACCES) system starting in FY04. This RDT&E will provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of both ACCES and all other carry-on subsystems to meet emergent requirements.</p>								

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support		PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering	
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.417	1.442	1.422	1.419
RDT&E Articles Quantity				
<p>Cryptologic Carry-On Equipment</p> <p>FY04 - Integrated, tested, and documented Tactical Sensor Network mode of the Hostile Integrated Targeting Subsystem (HITS), including ONI certification tests and network certification test.</p> <p>FY05 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Develop and integrate software and/or hardware improvements to Advanced Carry-on Cryptologic System (ACCES) baseline. Efforts will support HITS, CAINO/BLUESTREAM subsystem and BUSHHOG systems. Initiate studies necessary to modify topside antenna configuration.</p> <p>FY06 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Develop and integrate software and/or hardware improvements to Advanced Carry-on Cryptologic System (ACCES) baseline. Efforts will support ATOMICRAFT and HITS subsystems. Complete studies necessary to modify topside antenna configuration.</p> <p>FY07 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.</p>				

R-1 SHOPPING LIST - Item No. 176

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support	PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget Submit</td> <td style="text-align: right;">1.466</td> <td style="text-align: right;">1.460</td> <td style="text-align: right;">1.466</td> <td style="text-align: right;">1.465</td> </tr> <tr> <td>FY06 President's Budget Submit</td> <td style="text-align: right;">1.417</td> <td style="text-align: right;">1.442</td> <td style="text-align: right;">1.422</td> <td style="text-align: right;">1.419</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.049</td> <td style="text-align: right; border-top: 1px solid black;">-0.018</td> <td style="text-align: right; border-top: 1px solid black;">-0.044</td> <td style="text-align: right; border-top: 1px solid black;">-0.046</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Recissions</td> <td style="text-align: right;">-0.016</td> <td style="text-align: right;">-0.018</td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.003</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.053</td> <td style="text-align: right;">-0.056</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.009</td> <td style="text-align: right;">0.014</td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td></td> <td style="text-align: right;">-0.004</td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td style="text-align: right;">-0.03</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.049</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.018</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.044</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.046</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY05 President's Budget Submit	1.466	1.460	1.466	1.465	FY06 President's Budget Submit	1.417	1.442	1.422	1.419	Total Adjustments	-0.049	-0.018	-0.044	-0.046	Summary of Adjustments					Congressional Adjustments					Congressional Recissions	-0.016	-0.018			Reprogrammings	-0.003				Programmatic Adjustments			-0.053	-0.056	Economic Assumptions			0.009	0.014	Pricing Adjustments				-0.004	SBIR/STTR Transfers	-0.03				Subtotal	-0.049	-0.018	-0.044	-0.046
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R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support			PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering																				
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td>OPN Line 3501, Cryptologic Equipment</td> <td>18.248</td> <td>19.520</td> <td>16.198</td> <td>17.651</td> <td>17.437</td> <td>16.868</td> <td>17.246</td> <td>17.656</td> </tr> </tbody> </table>									<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	OPN Line 3501, Cryptologic Equipment	18.248	19.520	16.198	17.651	17.437	16.868	17.246	17.656
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																		
OPN Line 3501, Cryptologic Equipment	18.248	19.520	16.198	17.651	17.437	16.868	17.246	17.656																		
<p>(U) E. ACQUISITION STRATEGY: *</p> <p>Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to SSC-Charleston, SSC-San Diego and miscellaneous contractors, with management oversight by SPAWAR.</p>																										
<p>* Not required for Budget Activities 1,2,3, and 6</p>																										

R-1 SHOPPING LIST - Item No. 176

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 5 of 9)

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			PE 0204574N Cryptologic Direct Support				3091 / Advanced Cryptologic Systems Engineering					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various	0.166	0.169	12/04	0.169	12/05	0.169	12/06	Continuing	Continuing	Continuing
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			0.166	0.169		0.169		0.169		0.000	0.673	0.000
Remarks:												
Development Support											0.000	0.000
Software Development	Various	Various	0.982	1.002	12/04	1.002	12/05	1.002	12/06	Continuing	Continuing	Continuing
Training Development											0.000	0.000
Integrated Logistics Support											0.000	Continuing
Configuration Management											0.000	Continuing
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.982	1.002		1.002		1.002		Continuing	Continuing	Continuing
Remarks:												

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT PE 0204574N Cryptologic Direct Support				PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			0.050	0.051	12/04	0.055	12/05	0.055	12/06	Continuing	Continuing	Continuing
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.050	0.051		0.055		0.055		0.000	0.211	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support			0.178	0.177	Various	0.151	Various	0.149	Various	Continuing	Continuing	0.000
Travel			0.041	0.043	Various	0.045	Various	0.044	Various	Continuing	Continuing	0.000
Subtotal Management			0.219	0.220		0.196		0.193		Continuing	Continuing	0.000
Remarks:												
Total Cost			1.417	1.442		1.422	Various	1.419	Various	Continuing	Continuing	Continuing
Remarks:												

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7		PROGRAM ELEMENT PE 0204574N Cryptologic Direct Support				PROJECT NUMBER AND NAME 3091/ Advanced Cryptologic Systems Engineering		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
System Design Review (SDR)	2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Operational Assessment (OA)	3Q	3Q	3Q	3Q	3Q	3Q	3Q	3Q
HW/SW Delivery	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7								PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support								PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Prototype Phase	<div></div>				<div></div>				<div></div>				<div></div>				<div></div>				<div></div>				<div></div>				<div></div>			
System Development (e.g., Radar System dev.)	<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>				<div>△ SDR</div>			
Equipment Delivery (e.g., EDM Radar Delivery)			<div>△</div>			<div>△</div>				<div>△</div>				<div>△</div>				<div>△</div>				<div>△</div>				<div>△</div>						
Test & Evaluation Milestones																																
Operational Assessment			<div>OA △</div>			<div>OA △</div>				<div>OA △</div>				<div>OA △</div>				<div>OA △</div>				<div>OA △</div>				<div>OA △</div>						
Production Milestones																																
LRIP I																																
LRIP II																																
FRP																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 176

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification									Date: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7					R-1 ITEM NOMENCLATURE 0204575N Electronic Warfare Readiness Support					
COST (\$ in Millions)	FY 04	FY 05	FY 06	FY07	FY08	FY09	FY10	FY11	TO COMPLETE	TOTAL
Information Warfare/2263	7.538	5.821	10.456	13.642	17.757	9.195	9.313	9.445	CONT	CONT
Quantity of RDT&E Articles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A. Mission Description and Budget Item Justification										
<p>The Naval Information Warfare Activity (NIWA) serves as the Program Manager for the Offensive Information Warfare (IW) program. As such, NIWA is tasked as the Navy's principal technical agent to research, assess, develop, and prototype IW capabilities. The key focus is to provide tactical commanders with both an IW Mission Planning, Analysis and Command and Control Targeting System (IMPACTS) tool and state-of-the-art Electronic Attack (EA) hardware and software. This project will continue with the development and integration of EA systems (e.g., USQ-146 and SSQ-137) onto various platforms through the out-years. Ongoing software efforts are to identify and develop IW planning and execution tools, as well as computer network operations capabilities. In addition, NIWA is responsible for the management of the Navy Vulnerability Assessment Counter-Measures program (NVACM), which assesses information systems in the design phase to ensure security confidence/integrity of fielded capabilities.</p>										
<p>The budget provides for the expansion of Computer Network Operations (CNO). Specific efforts include: expanded target area capability development, test bed design and development to support the evaluation of emerging technologies (hardware), expansion of R&D test facility to validate capabilities (software), evaluate execution from unmanned/wireless "networks", and development of a concept of operations for the weaponization/ operationalization of CNO. Some details of CNO are held at a higher classification level.</p>										

Exhibit R-2a, RDT&E Project Justification									Date: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/2263					
Cost (\$ in Millions)	FY 04	FY 05	FY 06	FY 07	FY08	FY09	FY10	FY11	Cost to Complete	Total Cost
Project Cost	7.538	5.821	10.456	13.642	17.757	9.195	9.313	9.445	Continuing	Continuing
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Exhibit R-2a, RDT&E Project Justification								Date: February 2005	
A. Accomplishments/Planned Program									
FY2004 Plans									
(2.3) – IMPACTS updates									
(2.4) – Electronic Attack									
(1.1) – Computer Network Operations (CNO)									
(1.2) – Navy Vulnerability Assessment Counter-Measures (NVACM)									
(0.5) – Program Office Support									
FY2005 Plans									
(2.5) – IMPACTS updates									
(1.6) – Electronic Attack									
(1.2) – Navy Vulnerability Assessment Counter-Measures (NVACM)									
(0.0) – Navy IO									
(0.6) – Program Office Support									
FY2006 Plans									
(2.0) - IMPACTS updates									
(2.6) - Electronic Attack									
(2.4) - Computer Network Operations (CNO)									
(1.4) - Navy Vulnerability Assessment Counter-Measure (NVACM)									
(1.6) - Navy IO									
(0.5) - Program Office Support									
B. Other Program Funding Summary									
	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	
OMN Line 4B7N	2.7	2.6	2.7	2.7	2.8	2.9	3.0	3.0	
OPN 234000/6	4.2	4.0	3.9	5.0	7.1	4.2	4.3	4.3	
.									
C. Acquisition Strategy: N/A									
D. Schedule Profile: N/A									

Exhibit R-2a, RDT&E Project Justification							Date: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7	PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
E. Program Change Summary:								
	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
PB06	7.538	5.821	10.456	13.642	17.757	9.195	9.313	9.445
PB05	<u>7.691</u>	<u>5.874</u>	<u>9.786</u>	<u>8.699</u>	<u>8.876</u>	<u>9.053</u>	<u>0.000</u>	<u>0.000</u>
Total Adjustments	-.153	-.053	.670	4.943	8.881	0.142	9.313	9.445
Summary of Adjustments:								
Congressional Adjustments	-0.000	-0.052						
Reprogramming	-0.153	-0.001						
Programmatic Adjustment	<u>0.000</u>	<u>0.000</u>	<u>0.670</u>	<u>4.943</u>	<u>8.881</u>	<u>0.142</u>	<u>9.313</u>	<u>9.445</u>
Total Adjustments	-0.153	-0.053	0.670	4.943	8.881	0.142	9.313	9.445

Exhibit R-3 Cost Analysis									Date: February 2005			
RDT&E,N/7				Program Element: 0204575N					Information Warfare/Z2263			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Var	Var	9.576	1.969	Var	1.762	Var	3.478	Var	Cont.	Cont	
Subtotal Product Development			9.576	1.969	Var	1.762	Var	3.478	Var	Cont.	Cont	
Development Support	Var	Var	2.984	1.819	Var	1.034	Var	1.532	Var	Cont.	Cont	
Software Development	Var	Var	3.901	2.000	Var	1.100	Var	3.200	Var	Cont.	Cont	
Subtotal Support			6.885	3.819	Var	2.134	Var	4.732	Var	Cont.	Cont	
Remarks												

Exhibit R-3 Cost Analysis									Date: February 2005			
RDT&E,N/7				Program Element: 0204575N					INFORMATION WARFARE/Z2263			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Var	Var	0.400	0.65	Var	0.700	Var	1.000	Var	Cont.	Cont	
Subtotal T&E			0.400	0.65	Var	0.700	Var	1.000	Var	Cont.	Cont	
Remarks												
AIS Support	Var	Var	0.150	0.10	Var	0.100	Var	0.100	Var	Cont.	Cont	
Government Engineering Support	Var	Var	0.935	0.45	Var	0.525	Var	0.535	Var	Cont.	Cont	
Program Management Support	Var	Var	1.100	0.55	Var	0.600	Var	0.611	Var	Cont.	Cont	
Subtotal Management			2.185	1.10	Var	1.225	Var	1.255	Var	Cont.	Cont	
Remarks												
Total Cost			19.046	7.538	Var	5.821	Var	10.456	Var	Cont.	Cont	
Remarks												

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0205601N HARM Improvement			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	50.420	165.634	90.832	100.897	33.098	7.027	7.461	8.184
1780 HARM Improvement	1.988	1.736	3.719	3.792	4.025	2.973	4.231	4.366
2185 Adv. Anti-Radiation Guided Missile (AARGM)	30.401	63.768	74.987	97.105	29.073	4.054	3.230	3.818
2211 Joint Common Missile*	13.452	82.016	0.000	0.000	0.000	0.000	0.000	0.000
3056 Advanced Precision Kill Weapon System (APKWS)	4.579	12.336	12.126	0.000	0.000	0.000	0.000	0.000
3057 Common Defense	0.000	4.790	0.000	0.000	0.000	0.000	0.000	0.000
S9626 Spectral Beam Combining Fiber Lasers		0.988						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional Adds: \$2.8 million in FY 2004 for AARGM accelerated Embedded National Tactical Receiver (ENTR) insertion in SD&D. Budget controls included an erroneous application of JDAM SBIR charges to the AARGM and JCM accounts. FY2004 budget execution numbers in this submission reflect below-threshold-reprogramming action which restores \$1.972K to the AARGM A2185 account and \$926K to the JCM A2211 account. Congressional add of \$2.9 million in FY2005 accelerated development of critical ENTR interfaces and correlation software. It also funds development of a common AGM-88 series battery that replaces the AARGM specific battery resulting in a production savings of \$2.5K per weapon. Justification material includes decision to terminate the Joint Common Missile (JCM) program beginning in FY2006. (U) HIGH-SPEED ANTI-RADIATION (HARM) IMPROVEMENT: The High-speed Anti-Radiation Missile (HARM) is a joint service program with the Air Force (NAVY lead). The program commenced production in FY1983. Program Element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (AGM-88B, Block III & AGM-88C, Block IV) as Engineering Change Proposals (ECPs). Another ECP software program (Block IIIA & V) was recently developed (FY1996 through FY1999) to modify HARM software in order to meet operational requirements. The Block V tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block IIIA/V software was distributed to the Fleet in FY2000. HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates, and integration efforts. (U) ADVANCED ANTI-RADIATION GUIDED MISSILE (AARGM): AARGM is an ACAT-1C acquisition program in System Development & Demonstration to upgrade the AGM-88 HARM missile with multi-mode / multi-spectral guidance and targetting capability. It also incorporates the capability to receive national broadcast data and transmit weapon impact assessments (demonstrated in Quick Bolt ACTD). An AARGM System Development and Demonstration (SD&D) commenced in FY03. The AARGM program plans production of 1,750 missiles (75) Low Rate Initial Production (LRIP) and 1,675 Full Rate Production modification kit(s). *Previously referred to as JAWS/Modernized Hellfire.								

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE 0205601N HARM Improvement	
<p>(U) <u>JOINT COMMON MISSILE (JCM)</u>: Army led joint service program to replace the aging legacy TOW, Maverick, and Hellfire missiles with a single multi-role weapon, IAW J8 validated and Navy, Army and Marine Corps approved Initial Capabilities Document (ICD) and Capabilities Development Document (CDD). Joint Common Missile will provide Line of Sight (LOS), Non-Line of Sight (NLOS), and Beyond Line of Sight (BLOS) capabilities including precision strike with Fire & Forget technologies, increased range, and increased lethality for both Fixed Wing and Rotary Wing Aircraft. Joint Common Missile will maximize the Warfighter's' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.</p> <p>(U) <u>ADVANCED PRECISION KILL WEAPON SYSTEM (APKWS)</u>: The APKWS is an Army SD&D program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. APKWS offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components (warhead and rocket motor) and can be fired from existing rocket launchers. APKWS will provide an inexpensive, small, lightweight, precision guided weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increased stand-off range. Army, Marine Corps, and recent Navy ASUW Mission Need Statements highlighted the requirement for a weapon system capable of employment from the SH-60 to counter a swarm threat of small attack boats.</p> <p>(U) <u>COMMON DEFENSE</u>: The Department of the Navy has a requirement to replace legacy weapons with an advanced .50 caliber crew served weapon, called the GAU-21 Common Defense Weapon System (CDWS), for assault support helicopters. Specific applications include a machine gun to replace GAU-16 and the XM-218.50 caliber machine guns that will provide a significant increase in firepower, accuracy, lethality and reliability, and will maximize survivability through suppressive fire capabilities. Funding will support requirements validation, advance technology demonstration, and prototype development.</p> <p>(U) <u>SPECTRAL BEAM COMBINING FIBER LASERS</u>: In accordance with NAVSEA Notice 5400, Ser 09B/240, Subj: ESTABLISHMENT OF THE NAVY DIRECTED ENERGY WEAPONS PROGRAM OFFICE (PMS 405), dated 4 Jan 02 and NAVSEA Instruction 5400.101, Ser SEA 06/058, Subj: DIRECTED ENERGY AND ELECTRIC WEAPONS PROGRAM OFFICE (PMS 405) CHARTER, dated 21 Jul 04 - COMNAVSEASYSYSCOM (PMS 405) was assigned as the single Point of Contact for matters related to Directed Energy and Electric Weapons development and acquisition initiation for the Navy and for those matters being coordinated with other Federal agencies and military services.</p>		

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 2 of 38)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME 1780 HARM Improvement			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.988	1.736	3.719	3.792	4.025	2.973	4.231	4.366
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The High-speed Anti-Radiation Missile (HARM) is a joint service program with the Air Force (NAVY lead). The program has been in full production since FY 1983. Program Element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (AGM-88B, Block III & AGM-88C, Block IV) as Engineering Change Proposals (ECPs). Another ECP software program (Block IIIA & V) was recently developed (FY96 through FY99) to modify HARM software in order to meet operational requirements. The Block V tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block IIIA/V software was distributed to the Fleet in FY00.</p> <p>HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates, and integration efforts.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 3 of 38)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 1780 HARM Improvement																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.988</td><td style="text-align: center;">1.736</td><td style="text-align: center;">3.719</td><td style="text-align: center;">3.792</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.988	1.736	3.719	3.792	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.988	1.736	3.719	3.792															
RDT&E Articles Quantity																			
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 1780 HARM Improvement																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 12.5%;">FY 04</th> <th style="text-align: right; width: 12.5%;">FY 05</th> <th style="text-align: right; width: 12.5%;">FY 06</th> <th style="text-align: right; width: 12.5%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">1.991</td> <td style="text-align: right;">1.755</td> <td style="text-align: right;">3.688</td> <td style="text-align: right;">3.696</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">1.988</td> <td style="text-align: right;">1.736</td> <td style="text-align: right;">3.719</td> <td style="text-align: right;">3.792</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.003</td> <td style="text-align: right; border-top: 1px solid black;">-0.019</td> <td style="text-align: right; border-top: 1px solid black;">0.031</td> <td style="text-align: right; border-top: 1px solid black;">0.096</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.019</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other</td> <td></td> <td></td> <td style="text-align: right;">-0.005</td> <td style="text-align: right;">0.013</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.036</td> <td style="text-align: right;">0.083</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.002</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.003</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.019</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.031</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.096</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">Not Applicable.</p> <p>Technical:</p> <p style="margin-left: 40px;">Not Applicable.</p>						FY 04	FY 05	FY 06	FY 07	Funding:					Previous President's Budget:	1.991	1.755	3.688	3.696	Current BES/President's Budget	1.988	1.736	3.719	3.792	Total Adjustments	-0.003	-0.019	0.031	0.096	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.019			Congressional rescissions					SBIR/STTR Transfer	-0.001				Other			-0.005	0.013	Economic Assumptions			0.036	0.083	Reprogrammings	-0.002				Congressional increases					Subtotal	-0.003	-0.019	0.031	0.096
	FY 04	FY 05	FY 06	FY 07																																																																											
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME A1780 HARM Improvement					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
WPN BLI 23270, HARM MODS	0	0	0	0	40.985	43.050	43.954	44.877	0	172.866
Related RDT&E: Not applicable.										
E. ACQUISITION STRATEGY:										
<p>The HARM Block IIIB/VI Upgrade program was an ACAT III Program and consisting of three separate phases (EMD, Production, and Technology Evaluation and Assessment). The acquisition strategy for the HARM Block IIIB/VI Program was complete and was based upon a signed international Memorandum of Agreement with Germany, Italy, and U.S. Navy; a tri-national Cooperative Operational Requirements Document (CORD), and a Cooperative Test and Evaluation Master Plan (CTEMP). These three documents drove the overall acquisition approach to the HARM Block VI project. Tri-national participation in the HARM Precision Navigation Upgrade (PNU) modification program was terminated in 3Q03.</p> <p>Available resources will be applied to HARM Legacy configuration requirements.</p>										

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0205601N HARM Improvement			PROJECT NUMBER AND NAME 1780 HARM Improvement						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF	RSC, Tucson, AZ	19.073								19.073	19.073
Ancillary Hardware Development											0.000	
Aircraft Integration	WX	NAWCWD China Lake, CA	11.276								11.276	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	NAWCWD China Lake, CA	3.609								3.609	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			33.958	0.000		0.000		0.000		0.000	33.958	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	WX	NAWCWD Point Mugu, CA	1.644								1.644	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	FFP	Rockwell Collins, IA	0.030								0.030	0.030
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.674	0.000		0.000		0.000		0.000	1.674	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0205601N HARM Improvement			1780 HARM Improvement						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCWD China Lake, CA	9.162								9.162	
Operational Test & Evaluation	WX	NAWCWD China Lake, CA	3.308								3.308	
Operational Test & Evaluation (FME)	WX	NAWCWD China Lake, CA	1.811	1.611	10/04	3.569	10/05	3.627	10/06	Continuing	Continuing	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			14.281	1.611		3.569		3.627		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	RX	Rockwell Collins	2.214								2.214	
Government Engineering Support											0.000	
Program Management Support	Various	NAWCAD, Pax River, MD	0.236	0.100	11/04	0.125	11/05	0.140	11/06	Continuing	Continuing	
Travel	WX	NAVAIR HQ	0.379	0.025	10/04	0.025	10/05	0.025	10/06	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			2.829	0.125		0.150		0.165		Continuing	Continuing	
Remarks:												
Total Cost			52.742	1.736		3.719		3.792		Continuing	Continuing	
Remarks: Prior year data includes the HARM Precision Navigation Upgrade (PNU) modification program which was terminated in 3Q03.												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 38)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-7									0205601N HARM Improvement									1780 HARM Improvement														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Foreign Military Exploitation (FME) - continuing																																
Production Milestones																																
Deliveries																																

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement				PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	30.401	63.768	74.987	97.105	29.073	4.054	3.230	3.818
RDT&E Articles Qty			6	8	17			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Congressional Add: \$2.8 million in FY 2004 for AARGM accelerated Embedded National Tactical Receiver (ENTR) insertion in SD&D. In May 2004, the contract was modified to accelerate ENTR, bringing the Operational Requirements Document (ORD) phase III capability under contract. The AARGM FY2004 budget control included an erroneous application of JDAM SBIR charges to the AARGM and JCM accounts. FY2004 budget execution numbers in this submission reflect below-threshold-reprogramming action which restores \$1.972K to the AARGM A2185 account. Congressional add of \$2.9 million in FY05 accelerated development of critical ENTR interfaces and correlation software. It also funds development of a common AGM-88 series battery that replaces the AARGM specific battery resulting in a production savings of \$2.5K per weapon.

The Advanced Anti-Radiation Guided Missile (AARGM), AGM-88E, Project transitioned a Phase III Small Business Innovative Research (SBIR) program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY03. The AARGM SD&D program is designed to integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning system/Inertial Navigation System (GPS/INS)) and multi-spectral sensors on the HARM AGM-88 missile. AARGM weapon system capabilities include: active Millimeter Wave terminal guidance, counter shutdown, expanded threat coverage, enhanced anti-radiation homing receiver, netted targeting real-time feed via Integrated Broadcast Service (IBS) prior to missile launch, weapon impact assessment transmitted prior to detonation, GPS/point-to-point weapon, and weapon employment with impact avoidance zone/missile impact zones.

The issue of emitter "shut-down" as a defensive tactic has been a major shortcoming in the joint suppression of enemy air defenses (J-SEAD) element of the offensive counter air mission area for the United States Navy and Air Force. Program objectives are to achieve an effective and affordable lethal DEAD (Destruction of Enemy Air Defenses) capability against mobile, relocatable, or fixed air defense threats even in the presence of emitter shutdown or other Anti-Radiation Missile (ARM) countermeasures. The multi-mode, multi-spectral technology being integrated in the AARGM program resolves the problem of "shut-down".

At Milestone B (June 2003), AARGM successfully transitioned to a System Development and Demonstration (SD&D) Acquisition Category 1C (ACAT 1C) program. ATK Missile Systems Company (AMSC) was awarded the AARGM SD&D NAVAIR Contract N00019-03-C-0353, valued at \$222.6M. The AARGM program plans to produce 1,750 missiles (75 Low Rate Initial Production (LRIP) missiles and 1,675 Full Rate AGM-88Es). In May 2004, the contract was modified to accelerate ENTR, enabling the warfighter to directly receive National intelligence data, providing additional AARGM targetting data to increase overall pilot situational awareness. The new contract value is \$228.4M.

The AARGM program transitioned the Quick Bolt Advanced Concept Technology Demonstration (ACTD) to SD&D. Quick Bolt added the capabilities to receive threat data from national assets, enlarging the target set and increasing aircrew situational awareness, and to transmit a Weapon Impact Assessment (WIA) message to assist in the critical area of Battle Damage Assessment (BDA). The Quick Bolt ACTD was completed in FY03. Quick Bolt demonstration testing successfully used Impact Avoidance Zone (IAZ) logic to distinguish between the proscribed and original target, demonstrating the ability to greatly reduce friendly fire incidents and collateral damage.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 11 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)		
B. Accomplishments/Planned Program				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	30.401	63.768	74.987	97.105
RDT&E Articles Quantity			6	8
<p>Milestone B System Development and Demonstration (SD&D) activities, and post-Milestone B SD&D efforts. Contractor to update the Advanced Technology Demonstration (ATD)/Advanced Concept Technology Demonstration (ACTD) subsystem designs to the SD&D System Performance Specification and prepare for/conduct System Design Review, Preliminary Design Review, Critical Design Review, Contractor build-up and laboratory and field testing of the AGM-88E seeker. Field activities to support System Engineering, aircraft integration (including Software Configuration Set support), test asset, and test and evaluation requirements analysis, and developmental logistics support. Contractor to perform engineering and technical evaluation services to support program management of AARGM. Contractor on track for April 2005 System Preliminary Design Review.</p>				

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget	31.188	61.450	74.435	94.176
Current BES/OSD Budget	30.401	63.768	74.987	97.105
Total Adjustments	-0.787	2.318	0.552	2.929
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.568		
Congressional rescissions				
SBIR/STTR Transfer	-2.730			
Other		-0.014	-0.156	1.532
Economic Assumptions	-0.029		0.708	1.397
Reprogrammings	1.972			
Congressional increases		2.900		
Subtotal	-0.787	2.318	0.552	2.929

Schedule:

Schedule change is due to a correction from previous budget submission. LRIPII deliveries extending from 1st Qtr FY10 through 4th Qtr FY10.

Technical:

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
P-1 Proc. Line Item No. 232700, HARM MODS	0	0	0	0	40.985	43.05	43.954	44.877	800.034	972.900
 E. ACQUISITION STRATEGY:										
<p>The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program (ATD), evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) ACAT 1C program in June 2003. The AARGM SD&D will fulfill U.S. Navy operational requirements and incorporates AARGM ATD and Quick Bolt ACTD-demonstrated system requirements. Government responsibilities for SD&D include monitoring, technical assessment and validation of contractor technology development and testing.</p>										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-7			PROGRAM ELEMENT 0205601N HARM Improvement			PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPFF	SAT, Woodland Hills, CA	98.562	0.000		0.000		0.000		0.000	98.562	98.562
Primary Hardware Dev. - Risk Red.	CPFF	SAT, Woodland Hills, CA	66.305	0.000		0.000		0.000		0.000	66.305	66.305
Primary Hardware Dev. - Quick Bolt	CPFF	SAT, Woodland Hills, CA	17.334	0.000		0.000		0.000		0.000	17.334	17.334
Primary Hardware Dev. - SD&D	CPIF	AMSC, Woodland Hills, CA	36.802	47.686	10/04	55.250	12/05	69.160	12/06	20.492	229.390	229.390
Aircraft Integration	WX	NAWC WD, China Lake	3.223	0.643	10/04	1.040	10/05	4.298	10/06	0.410	9.614	
Systems Engineering	WX	NAWC WD, China Lake	22.043	6.731	10/04	6.859	10/05	9.736	10/06	1.207	46.576	
Systems Engineering	WX	JHU/APL, MD	0.615	0.000						0.000	0.615	
Primary Hardware Dev. - Risk Red.	CPFF	AMSC, Woodland Hills, CA	7.000	0.000						0.000	7.000	7.000
											0.000	
											0.000	
											0.000	
Subtotal Product Development			251.884	55.060		63.149		83.194		22.109	475.396	
Remarks: Total SD&D contract target value includes \$4.971 of OSD funding in FY03 and \$.500 of Other Customer Funds (OCF) in FY04.												
Integrated Logistics Support	WX	NAWC WD, China Lake	0.458	0.580	10/04	0.900	10/05	1.200	10/06	0.634	3.772	
Integrated Logistics Support	WX	NAWC AD, Pax River, MD	0.012	0.000		0.000		0.000		0.000	0.012	
Studies & Analyses	Various	Various	0.462	1.407	11/04	0.090	11/05	0.485	11/06	0.000	2.444	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.932	1.987		0.990		1.685		0.634	6.228	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0205601N HARM Improvement			2185 Advanced Anti-Radiation Guided Missile (AARGM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC WD, CHINA LAKE	2.093	1.183	10/04	3.071	10/05	4.499	10/06	Continuing	Continuing	
Operational Test & Evaluation	WX	NAWC WD, CHINA LAKE	0.000	0.000		0.000		0.000		Continuing	Continuing	
Test Assets	WX	NAWC WD, CHINA LAKE	0.000	1.335	10/04	2.716	10/05	1.522	10/06	0.223	5.796	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			2.093	2.518		5.787		6.021		0.223	16.642	
Remarks:												
Contractor Engineering Support	Various	DCS Corp, Alexandria, VA	4.323	0.000		0.000		0.000		0.000	4.323	4.323
Contractor Engineering Support	Various	Various	0.242	0.645	11/04	0.942	11/05	0.970	11/06	0.000	2.799	
Program Management	Various	NAWC AD, Pax River, MD	0.105	0.290	10/04	0.290	10/05	0.290	10/06	0.040	1.015	
Travel	Various	NAWC AD, Pax River, MD	0.752	0.080	10/04	0.080	10/05	0.090	10/06	0.100	1.102	
SBIR Assessment			0.000	3.188		3.749		4.855		1.454	13.246	
											0.000	
Subtotal Management			5.422	4.203		5.061		6.205		1.594	22.485	
Remarks:												
Total Cost			260.331	63.768		74.987		97.105		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 38)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7												PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement												PROJECT NUMBER AND NAME 2185 Advanced Anti-Radiation Guided Missile (AARGM)								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																	MSC	△														
Completion of AARGM ATD																																
Completion of Quick Bolt ACTD																																
Contract Award (SD&D)																																
Development	▲	SDR																														
System Design Review																																
Preliminary Design Review						PDR	△																									
Critical Design Review										CDR	△																					
Functional Configuration Audit																																
Production Readiness Review																																
Physical Configuration Audit																																
Testing & Evaluation Milestones																																
Development Testing																																
Development Testing																																
Operational Testing (OTC)																																
Operational Assessment																																
Production Milestones																																
Low-Rate Initial Production LRIP I																																
Low-Rate Initial Production LRIP II																																
Full Rate Production																																
Deliveries																																
Low-Rate Initial Production LRIP I																																
Low-Rate Initial Production LRIP II																																
Full Rate																																
Initial Operational Capability (IOC)																																

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement				PROJECT NUMBER AND NAME 2211 Joint Common Missile*			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	13.452	82.016	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty		12	0	0	0	0		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Previously referred to as JAWS/Modernized HELLFIRE. Justification material includes decision to terminate the Joint Common Missile (JCM) program beginning in FY2006.

(U) Joint Common Missile (JCM): Army led joint service program to replace the aging legacy TOW, Maverick, and Hellfire missiles with a single multi-role weapon, IAW J8 validated and Navy, Army and Marine Corps approved Initial Capabilities Document (ICD) and Capabilities Development Document (CDD). Joint Common Missile will provide Line of Sight (LOS), Non-Line of Sight (NLOS), and Beyond Line of Sight (BLOS) capabilities including precision strike with Fire & Forget technologies, increased range, and increased lethality for both Fixed Wing and Rotary Wing Aircraft. Joint Common Missile will maximize the Warfighter's operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 2211 Joint Common Missile																																
B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">13.452</td> <td style="text-align: center;">48.311</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">7</td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Phase I: Participation with the Army in Joint Common Missile Risk Reduction/Producibility as part of SD&D. Development of seeker, propulsion and warhead technologies for Navy and Marine Corps Fixed and Rotary Wing peculiar requirements (including shipboard operability and suitability); Systems engineering, including development of component technical solutions using SMART (simulation and modeling for acquisition, requirements and training). Risk reduction engineering efforts for the low smoke rocket motor, the tri-mode seeker, development of the Interface Control Document, initial platform integration, modeling and testing.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">33.705</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>Phase II: Continued participation with the Army in Joint Common Missile System Development and Demonstration (SD&D) activities after the completion of Phase I. Contractor to update the SD&D subsystem designs for the overall System Performance Specification and conduct System Design Review, Preliminary Design Review, Critical Design Review, and Design Readiness Reviews. Contractor to conduct risk mitigation efforts and complete the design, development, fabrication, test, and qualification of a single configuration Joint Common Missile. Field activities to support System Engineering, aircraft integration (including Software Configuration support), test asset, and test and evaluation requirements analysis, and developmental logistics support. Platform integration will be conducted on AH-1Z, F/A-18 E/F, and MH-60R.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	13.452	48.311	0.000	0.000	RDT&E Articles Quantity	7					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	33.705	0.000	0.000	RDT&E Articles Quantity		5	0	0
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	13.452	48.311	0.000	0.000																														
RDT&E Articles Quantity	7																																	
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	0.000	33.705	0.000	0.000																														
RDT&E Articles Quantity		5	0	0																														

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 20 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 2211 Joint Common Missile

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	13.749	82.820	117.343	62.246
Current President's Budget	13.452	82.016	0.000	0.000
Total Adjustments	-0.297	-0.804	-117.343	-62.246
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.787		
Congressional rescissions				
SBIR/STTR Transfer	-1.223			
Other		-0.017	-118.456	-64.338
Economic Assumptions			1.113	2.092
Reprogrammings	0.926			
Congressional increases				
Subtotal	-0.297	-0.804	-117.343	-62.246

Schedule:

Schedule change based on decision to terminate the Joint Common Missile (JCM) program beginning in FY2006.

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 178

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 21 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7			PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME 2211 Joint Common Missile			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
P-1 225000 (\$M) Joint Common Missile				0	0	0	0	0	0	0
RDT&E ARMY P.E. 0604329A Proj 013 JCM	93.705	152.381	0	0	0	0	0	0	0	246.086
PROCUREMENT ARMY C70302/APE				0	0	0	0	0	0	0

E. ACQUISITION STRATEGY:

Acquisition Strategy change due to the decision to terminate the Joint Common Missile (JCM) program beginning in FY2006.

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: September 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement				PROJECT NUMBER AND NAME 3056Advanced Precision Kill Weapon System (APKWS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.579	12.336	12.126	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	22		25					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Precision Kill Weapon System (APKWS) is an Army led SD&D program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. DON participation began in FY04. APKWS will provide an inexpensive, small, lightweight, precision guided weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increased stand-off range. APKWS offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components. The Navy is developing a digital launcher to maximize the effectiveness of the APKWS .

Test articles are being procured in FY04 for Developmental Test & Evaluation/Operational Assessment. Low Rate initial Production (LRIP) test articles are being procured in FY06 for Operational Test & Evaluation.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 3056 Advanced Precision Kill Weapon System (APKWS)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.579</td><td style="text-align: center;">12.336</td><td style="text-align: center;">12.126</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">22</td><td style="text-align: center;">0</td><td style="text-align: center;">25</td><td style="text-align: center;">0</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.579	12.336	12.126	0.000	RDT&E Articles Quantity	22	0	25	0
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.579	12.336	12.126	0.000															
RDT&E Articles Quantity	22	0	25	0															
<div style="border: 1px solid black; min-height: 200px; margin-top: 10px;"></div>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 24 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 3056 Advanced Precision Kill Weapon System (APKWS)		

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	4.673	12.504	12.502	0.000
Current BES/President Budget	4.579	12.336	12.126	0.000
Total Adjustments	-0.094	-0.168	-0.376	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.165		
Congressional rescissions				
SBIR/STTR Transfer	-0.090			
Other		-0.003	-0.466	
Economic Assumptions			0.090	
Reprogrammings	-0.004			
Congressional increases				
Subtotal	-0.094	-0.168	-0.376	0.000

Schedule:

Initial Operational Capability (IOC) has always been scheduled for first quarter FY08. Operational Test II has been added to FY07. Navy schedule for LRIP, FRP, and follow on have been added to the schedule for clarification.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME 3056 Advanced Precision Kill Weapon System (APKWS)				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
PANMC - (BLI 015100) Airborne Rockets, All Types	26.618	34.019	35.159	15.575	37.206	37.396	38.209	39.039	TBD	TBD
APKWS Procurement*		0.000	8.079	12.000	15.000	15.000	15.000	15.000	TBD	TBD
Related RDT&E: U. S. Army P.E. 0604802A PROJ D705 Advanced Precision Weapon System	46.870	12.450	10.884	8.593	17.235	15.750	5.750	0.000	0.00	117.532
Procurement: U. S. Army P.E. 0203802A PROJ D786		6.879	27.931	86.16**	95.608**	109.803**	102.450	102.250	TBD	TBD

* Planned procurement strategy for the APKWS 2.75-inch guidance sections within the current Airborne Rockets, All Types PANMC funding profile

** Army procurement numbers include unguided rockets.

E. ACQUISITION STRATEGY:

Department of Army (DOA) ACAT II program. Entered SDD in 2nd qtr FY03. DON acquisition strategy is to contract unique requirements & Test Assets with the DOA. Platform integration is on AH-1W.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0205601N HARM Improvement			3056 Advanced Precision Kill Weapon System (APKWS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MP	AMCOM, Huntsville, AL	0.678	2.300	12/04						2.978	
Primary Hardware Development	PX	NSWC Indian Head, MD		1.500	10/04						1.500	
											0.000	
Aircraft Integration	WX	Various	0.196	0.650	11/04	0.550	11/05				1.396	
											0.000	
Systems Engineering	WX	NSWC Indian Head, MD		0.444	11/04	0.653	11/05				1.097	
Training Development	WX	NSWC Indian Head, MD		0.145	11/04	0.345	11/05				0.490	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.874	5.039		1.548		0.000		0.000	7.461	
Remarks:												
											0.000	
Software Development	WX	NAWCWD, CA		1.682	10/04	0.000					1.682	
Integrated Logistics Support	WX	NSWC Indian Head, MD		0.300	11/04	0.400	11/05				0.700	
Configuration Management	WX	NSWC Indian Head, MD		0.096	11/04	0.135	11/05				0.231	
Technical Data	WX	NSWC Indian Head, MD		0.140	11/04	0.100	11/05				0.240	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	2.218		0.635		0.000		0.000	2.853	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0205601N HARM Improvement			PROJECT NUMBER AND NAME 3056 Advanced Precision Kill Weapon System (APKWS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various	0.409	1.000	11/04	1.200	11/05				2.609	
Developmental Test & Evaluation	WX	NSWC, Indian Head, MD		0.455	11/04	0.550	11/05				1.005	
Operational Test & Evaluation	WX	Various	0.030			4.493	11/05				4.523	
Test Assets	MP	AMCOM, Huntsville, AL	2.045			0.621	12/05				2.666	
Test Assets	WX	NSWC, Indian Head, MD		1.450	10/04	0.650	11/05				2.100	
											0.000	
											0.000	
Subtotal T&E			2.484	2.905		7.514		0.000		0.000	12.903	
Remarks:												
											0.000	
Government Engineering Support	WX	Various	0.990	1.650	10/04	1.639	10/05				4.279	
Program Management Support	WX	NSWC, Indian Head, MD	0.157	0.400	10/04	0.533	10/05				1.090	
Travel	WX	Various	0.074	0.124	10/04	0.257	10/05				0.455	
											0.000	
											0.000	
Subtotal Management			1.221	2.174		2.429		0.000		0.000	5.824	
Remarks:												
Total Cost			4.579	12.336		12.126		0.000		0.000	29.041	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 38)

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* Navy only milestones. All others are Department of Army (DOA)

LRIP I DLVY	LRIP II Deliveries	FRP Deliveries
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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 29 of 38)

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[illegible]

R-1 SHOPPING LIST - Item No. 178

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 30 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement				PROJECT NUMBER AND NAME 3057 Common Defense			
COST (\$ in Millions)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Project Cost	0.000	4.790	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Department of the Navy has a requirement to replace legacy weapons with an advanced .50 caliber crew served weapon, called the GAU-21 Common Defense Weapon System (CDWS), for assault support helicopters. Specific applications include a machine gun to replace GAU-16 and the XM-218.50 caliber machine guns that will provide a significant increase in firepower, accuracy, lethality and reliability, and will maximize survivability through suppressive fire capabilities. Funding will support requirements validation, advance technology demonstration, and prototype development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 3057 Common Defense		
B. Accomplishments/Planned Program				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	4.790	0.000	0.000
RDT&E Articles Quantity				
<p>Funding will support requirements validation, advance technology demonstration, and hardware development, including integration and system qualification efforts on the H1, H46, CH-53D/E, H-60, and V-22 helicopters.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME 3057 Common Defense																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 12.5%;">FY 2004</th> <th style="text-align: right; width: 12.5%;">FY 2005</th> <th style="text-align: right; width: 12.5%;">FY 2006</th> <th style="text-align: right; width: 12.5%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.842</td> <td style="text-align: right;">0.005</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.790</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.052</td> <td style="text-align: right; border-top: 1px solid black;">-0.005</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.051</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.005</td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.052</td> <td style="text-align: right; border-top: 1px solid black;">-0.005</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">Not Applicable.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 40px;">Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget:	0.000	4.842	0.005	0.000	Current President's Budget	0.000	4.790	0.000	0.000	Total Adjustments	0.000	-0.052	-0.005	0.000	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.051			Congressional rescissions					SBIR/STTR Transfer					Economic Assumptions					Reprogrammings					Congressional increases					Other		-0.001	-0.005		Subtotal	0.000	-0.052	-0.005	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																																																											
Funding:																																																																															
Previous President's Budget:	0.000	4.842	0.005	0.000																																																																											
Current President's Budget	0.000	4.790	0.000	0.000																																																																											
Total Adjustments	0.000	-0.052	-0.005	0.000																																																																											
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Reprogrammings																																																																															
Congressional increases																																																																															
Other		-0.001	-0.005																																																																												
Subtotal	0.000	-0.052	-0.005	0.000																																																																											

R-1 SHOPPING LIST - Item No. 178

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME 3057 Common Defense					

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-5, P-1 Proc. Line Item No. 052800, GAU-21 .50 Cal ATAV	8.271	0	0	0	0	0	0	0	0	8.271
APN -5, P-1 Proc. Line Item No. 058100	0	7.670	13.752	13.731	0	0	0	0	24.28	59.433

E. ACQUISITION STRATEGY:

This is a recurring Assault Support OAG action item for all platforms. Funding supports the replacement of WWII era .50 caliber machine guns currently in fleet use across all USMC & USN helicopter platforms. Proposed replacement will offer enhanced reliability, safety, increased operational effectiveness, reduced life cycle costs, and commonality across all support platforms. Required funding would support outfit of all fleet helicopters to the new configuration which include greater ammunition capacity and a soft mount system to reduce airframe fatigue.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement				PROJECT NUMBER AND NAME S9626 Spectral Beam Combining Fiber Lasers			
COST (\$ in Millions)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Project Cost	0.000	0.988	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Spectral Beam Combining Fiber Lasers are in accordance with NAVSEA Notice 5400, Ser 09B/240, Subj: ESTABLISHMENT OF THE NAVY DIRECTED ENERGY WEAPONS PROGRAM OFFICE (PMS 405), dated 4 Jan 02 and NAVSEA Instruction 5400.101, Ser SEA 06/058, Subj: DIRECTED ENERGY AND ELECTRIC WEAPONS PROGRAM OFFICE (PMS 405) CHARTER, dated 21 Jul 04 - COMNAVSEASYS COM (PMS 405) was assigned as the single Point of Contact for matters related to Directed Energy and Electric Weapons development and acquisition initiation for the Navy and for those matters being coordinated with other Federal agencies and military services.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME S9626 Spectral Beam Combining Fiber Lasers		
B. Accomplishments/Planned Program				
Spectral Beam Comb. Fiber Lasers	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.988	0.000	0.000
RDT&E Articles Quantity	N/A	N/A	N/A	N/A
<p>FY 05 - Funding will be used for technology development of high power lasers for Directed Energy military applications based on spectral beam combining of fiber lasers. Spectral Beam Combination (SBC), when combined with fiber lasers, allows the construction of high power lasers from an array of lower power fiber laser elements at reduced cost, size, and complexity. Funding would be utilized to accelerate the technology advancement necessary for the development of high power laser weapons. This effort will demonstrate the power scaling capability necessary for the development of a high power, electrically driven, tactical laser weapon system. Specific efforts include:</p> <ul style="list-style-type: none">• validate power scaling capability of the SBC approach to potentially achieve the 100kW power level• accelerate the test and evaluation program by fabricating specialty fiber demonstrate a multi-kW SBC fiber laser system.				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 36 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement	PROJECT NUMBER AND NAME S9626 Spectral Beam Combining Fiber Lasers		

C. PROGRAM CHANGE SUMMARY:
PMS 405 Portion Only

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Funding:				
Previous President's Budget:	0.000	0.000	0.000	0.000
Current President's Budget:	0.000	0.988	0.000	0.000
Total Adjustments	0.000	0.988	0.000	0.000
Summary of Adjustments				
Congressional undistributed reductions		-0.012		
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.000		
Other				
Subtotal	0.000	0.988	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205601N HARM Improvement			PROJECT NUMBER AND NAME S9626 Spectral Beam Combining Fiber Lasers				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
0604755N Directed Energy User Scrutiny Equip.		2.476								2.476
0603582N Multiple Items	11.994	24.204								
0604574N Compact Ultra Fast Laser System Development		1.978								
0601108F - JTO *										
0602890F - JTO *										
0601108F - JTO *										
0602114N - ONR *										
0603114N - ONR *										
Note: * Funding from these other sources varies from year to year based on the development efforts required/funded.										
E. ACQUISITION STRATEGY:										
Not Applicable (R&D effort only)										

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			R-1 ITEM NOMENCLATURE 0205604N Tactical Data Links					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	41.599	18.744	86.364	54.032	34.267	23.669	34.197	31.838
1743 Link-16 Improvements	12.611	3.614	2.383	0.498				
2126 ATDLS Integration	28.988	15.130	83.981	53.534	34.267	23.669	34.197	31.838
Quantity of RDT&E Articles	7		6					
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) This program element (PE) develops and improves the Navy's tactical data link systems. It includes the Link-16 Improvements and Advanced Tactical Data Link Systems (ATDLS) Integration Programs.</p> <p>(U) Link-16 Improvements extends Link-16 technological improvements to existing and new U.S. Navy tactical data link (TDL) systems, including Link-16 and Link-22. Link-16 Joint Range Extension (JRE) transfers Link-16 data via satellite communications and other non-RF paths. High Throughput Link-16 provides improved data transmission rates by altering the modulation characteristics of Link-16. Link-22 will pass TADIL-J data elements beyond the line-of-sight using a Time Division Multiple Access (TDMA) protocol and improved waveform with existing high-frequency (HF) and ultra-high-frequency (UHF) radios. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer and eliminate line-of-sight transmission limitations thereby improving operational flexibility. The Common Data Link Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) to provide higher CPU speeds, update rate and memory capacity required for advanced multi-TADIL processing functions. NGC2P will update CDLMS with advanced processors required to support critical data link functions including Link-16 JRE and Link-22.</p> <p>(U) The ATDLS Integration program will integrate the Multifunctional Information Distribution System – Low Volume Terminal (MIDS-LVT) Link-16 terminal into U.S. Navy platforms. This multinational (U.S., France, Germany, Italy, and Spain) cooperative development program was established to design, develop, and deliver low-volume lightweight tactical information system terminals for U.S. and foreign fighter aircraft, helicopters, ships and ground sites. The terminals are designed as a Pre-Planned Product Improvement (P3I) of the Joint Tactical Information Distribution System (JTIDS) Time Division Multiple Access (TDMA) Class II terminal. The goal of the MIDS-LVT program is to produce a terminal that is smaller, lighter, fully compatible with, and as capable as the JTIDS TDMA Class II terminals, but suitable for use in platforms that cannot accommodate the bulkier, heavier JTIDS TDMA Class II equipment. This project includes the costs to integrate and test MIDS on the Navy's F/A-18 and selected ship platforms. ATDLS Integration of the MIDS-LVT will also provide selected U.S. Navy and U.S. Marine Corps tactical aircraft such as the F/A-18, P-3, EA-6B, AV-8B and SH-60; U.S. Navy ships, and U.S. Marine Corps ground units with crypto-secure, jam resistant, low-probability-of-exploitation communication of tactical data and voice at a high data rate. It will have additional capabilities of common grid navigation and automatic relay inherent in the equipment that will enable long-range communication and provide jam resistance. The system will be interoperable among all services and NATO/Allied users equipped with MIDS-LVT or JTIDS Class II/IIA.</p>								

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	0205604N Tactical Data Links	
<p>U) ATDLS Integration Program also develops new and improved capabilities for Navy TADIL-J users. The Command and Control Processor is a software development effort that provides an interface between the TADILs (Links 4A, 11, and 16) and major surface ship Command and Control Systems (Advanced Combat Direction System (ACDS) and AEGIS Command and Decision (C&D)). The Common Data Link Management System is a pre-planned product improvement of the Command and Control Processor. The CDLMS will provide translation between TADILs and isolate all tactical data link equipment, message standards and protocols from tactical information processors. This will provide a flexible capability for rapidly exchanging tactical information using a single database for translating various link formats while remaining completely independent of communications equipment and tactical data computing systems. Development of new capabilities in ATDLS includes the Joint Interface Control Officer Support System (JSS), Common Link Integration Processing (CLIP) and Dynamic Network Management (DNM). The Joint Interface Control Officer (JICO) Support System (JSS) will be the standard joint service toolset to monitor and control Multi-TADIL network architectures. The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and COTS technology refresh objectives and high throughput Link-16. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both USN and USAF sponsorship. The principal goal of CLIP is to develop a multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management (DNM) will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. DNM consists of different capabilities including network control technologies (NCT), new terminal protocols (time slot reallocation (TSR) and Stochastic Unified Multiple Access (SHUMA)) and has been significantly expanded to include a more robust TSR and adaptive multinetting. The DNM capability will be integrated into the JSS host system and also JTIDS, MIDS and Joint Tactical Radio System (JTRS) terminals. Tactical Data Link Shipboard Integration provides for the integration of transformational software (i.e. CLIP, MIDS-JTRS) onto shipboard platforms.</p> <p>(U) This program element also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>		

R-1 SHOPPING LIST - Item No. 179

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links			PROJECT NUMBER AND NAME 1743 Link-16 Improvements				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	12.611	3.614	2.383	0.498				
RDT&E Articles Qty	6							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Link-16 Improvements extends Link-16 technological improvements to existing and new U.S. Navy tactical data link (TDL) systems, including Link-16 and Link-22. Link-16 Joint Range Extension (JRE) transfers Link-16 data via satellite communications and other non-RF paths. High Throughput Link-16 provides improved data transmission rates by altering the modulation characteristics of Link-16. Link-22 will pass TADIL-J data elements beyond the line-of-sight using a Time Division Multiple Access (TDMA) protocol and improved waveform with existing high-frequency (HF) and ultra-high-frequency (UHF) radios. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer and eliminate line-of-sight transmission limitations thereby improving operational flexibility. The Common Data Link Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) to provide higher CPU speeds, update rate and memory capacity required for advanced multi-TADIL processing functions. NGC2P will update CDLMS with advanced processors required to support critical data link functions including Link-16 JRE and Link-22.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E,N/BA-7	0205604N Tactical Data Links	1743 Link-16 Improvements		
(U) B. Accomplishments/Planned Program				
CDLMS / LINK-22 PROGRAM ENHANCEMENTS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.980			
RDT&E Articles Quantity				
FY 04 Accomplishments: Incorporated enhanced capabilities into NGC2P design. Completed design assessment of MTP Prototype and incorporate results into CDR.				
NGC2P CAPABILITY	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	11.631	3.614	2.383	0.498
RDT&E Articles Quantity	6			
FY 04 Accomplishments: Continued development of NGC2P capability. Continued development of EHF MDR BLOS capability and Link-16 throughput enhancements. Continued the rehosting of current C2P software from CMS-2 to Modern Higher Order Software language. Conducted Critical Design Review. Conducted development testing on the adjunct processor units to demonstrate JRE, Dual Net Multi-Frequency Link-11, GCCS-M Interface and Link-22 capabilities. Continued development of CDLMS field change and technical manual development. Continued development of training curricula update. FY 05 Plan: Continue development of NGC2P capability and development of training curricula. Conduct development testing, combat systems integration testing and link certification testing for NGC2P JRE capability. FY 06 Plan: Conduct TECHEVAL/OPEVAL of NGC2P JRE capability. Achieve MS C decision for NGC2P JRE. Conduct development testing, combat systems integration testing, link certification testing and TECHEVAL for NGC2P Link-22 capability. FY 07 Plan: Conduct OPEVAL of NGC2P Link-22 capability. Achieve MS C decision for NGC2P Link-22.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E,N/BA-7	0205604N Tactical Data Links	1743 Link-16 Improvements		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget	11.509	3.647	2.381	-
FY 06 President's Budget	12.611	3.614	2.383	0.498
Total Adjustments	1.102	-0.033	0.002	0.498
Summary of Adjustments				
Congressional Adjustments		-0.032		
Congressional Recissions				
Reprogrammings	1.362			
Programmatic Adjustments		-0.001		0.500
Economic Assumptions			0.010	0.004
Pricing Adjustments			-0.008	-0.006
SBIR/STTR Transfers	-0.26			
Subtotal	1.102	-0.033	0.002	0.498
 (U) Schedule: The NGC2P program schedule has been updated to properly reflect the software development schedule of JRE and Link-22.				
 (U) Technical: Not applicable.				

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links			PROJECT NUMBER AND NAME 1743 Link-16 Improvements					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN Line 2614 ATDLS	15.267	2.371	14.102	19.246	28.458	26.245	4.081	0.000	Continuing	Continuing
(U) E. ACQUISITION STRATEGY:										
Next Generation Command and Control Processor software development is utilizing an existing Northrop Grumman IT cost plus contract.										

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Exhibit R-3 Cost Analysis (page 1)							DATE:						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N/BA-7			0205604N Tactical Data Links				1743 Link-16 Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
NILE Subphase 2	CPIF	Logicon, San Diego, CA	3.171								3.171	3.171	
NILE LLC Dev	CPIF	VIASAT, San Diego, CA	0.500								0.500	0.500	
Link-22 Engineering/Integration	WX	SPAWARSYSCEN, San Diego, CA	3.547								3.547	3.547	
Link-22 Integration	CPFF	Logicon, San Diego, CA	0.116								0.116	0.116	
Link-22 Network Design	WX	NCTSI, San Diego, CA	0.690								0.690	0.690	
Command and Control Processor (C2P)	Various	Various	2.377								2.377	2.377	
Multi-TADIL Capability MTC	Various	Various	1.696								1.696	1.696	
Next Generation C2P Engineering/Integration	WX	SPAWARSYSCEN, San Diego, CA	7.227	1.190	11/04	0.864	11/05				9.281	9.281	
Next Generation C2P Engineering/Integration	Various	Various	1.770								1.770	1.770	
Next Generation C2P GFE	Various	Various	0.796								0.796	0.796	
Next Generation C2P Design/Dev	CPFF	APC, Austin, TX	8.013								8.013	8.013	
Next Generation C2P Design/Dev TDA	CPFF	APL/JHU, Laurel, MD	11.038								11.038	11.038	
Next Generation C2P Design/Dev	CPFF	Northrop Grumman IT, Reston, VA	7.759	0.705	11/04						8.464	8.464	

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 7 of 23)

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Exhibit R-3 Cost Analysis (page 3)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RD&E,N/BA-7			PROGRAM ELEMENT 0205604N Tactical Data Links			PROJECT NUMBER AND NAME 1743 Link-16 Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
NGC2P Test & Evaluation	WX	SPAWARSYSCEN, San Diego, CA	4.626	0.972	11/04	0.630	10/05	0.236	10/06		6.464	6.464
NGC2P Test & Evaluation	WX	NCTSI, San Diego, CA	0.270			0.167	10/05				0.437	0.437
NGC2P Test & Evaluation	WX	OPTEVFOR, Norfolk, VA				0.097	10/05	0.099	10/06			
Subtotal T&E			4.896	0.972		0.894		0.335				
Remarks:												
Engineering Support and Travel	Various	Various	3.947	0.747	Various	0.625	Various	0.163	Various		5.482	5.482
Subtotal Management			3.947	0.747		0.625		0.163				
Remarks:												
Remarks:												

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EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME															
RDT&E,N/BA-7					0205604N Tactical Data Links												1743 Link-16 Improvements															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Program Milestones									JRE	MS C					Link-22 MS C																	
NGC2P																																
Engineering Milestones		CDR																														
NGC2P																																
Test & Evaluation Milestones																																
NGC2P - JRE				DT			DT	DT	CSIT/	LINK CERT																						
NGC2P - LINK-22																																
Contract Milestones																																
NGC2P																																

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EXHIBIT R-2a, RDT&E Project Justification						DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links			PROJECT NUMBER AND NAME 2126 ATDLS Integration				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost Total		28.988	15.130	83.981	53.534	34.267	23.669	34.197	31.838
RDT&E Articles Qty		1		6					
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The ATDLS Integration program will integrate the Multifunctional Information Distribution System – Low Volume Terminal (MIDS-LVT) Link-16 terminal into U.S. Navy platforms. This multinational (U.S., France, Germany, Italy, and Spain) cooperative development program was established to design, develop, and deliver low-volume lightweight tactical information system terminals for U.S. and foreign fighter aircraft, helicopters, ships and ground sites. The terminals are designed as a Pre-Planned Product Improvement (P3I) of the Joint Tactical Information Distribution System (JTIDS) Time Division Multiple Access (TDMA) Class II terminal. The goal of the MIDS-LVT program is to produce a terminal that is smaller, lighter, fully compatible with, and as capable as the JTIDS TDMA Class II terminals, but suitable for use in platforms that cannot accommodate the bulkier, heavier JTIDS TDMA Class II equipment. This project includes the costs to integrate and test MIDS on the Navy's F/A-18 and selected ship platforms. ATDLS Integration of the MIDS-LVT will also provide selected U.S. Navy and U.S. Marine Corps tactical aircraft such as the F/A-18, P-3, EA-6B, AV-8B and SH-60; U.S. Navy ships, and U.S. Marine Corps ground units with crypto-secure, jam resistant, low-probability-of-exploitation communication of tactical data and voice at a high data rate. It will have additional capabilities of common grid navigation and automatic relay inherent in the equipment that will enable long-range communication and provide jam resistance. The system will be interoperable among all services and NATO/Allied users equipped with MIDS-LVT or JTIDS Class II/IA.</p> <p>(U) ATDLS Integration Program also develops new and improved capabilities for Navy TADIL-J users. The Command and Control Processor is a software development effort that provides an interface between the TADILs (Links 4A, 11, and 16) and major surface ship Command and Control Systems (Advanced Combat Direction System (ACDS) and AEGIS Command and Decision (C&D)). The Common Data Link Management System is a pre-planned product improvement of the Command and Control Processor. The CDLMS will provide translation between TADILs and isolate all tactical data link equipment, message standards and protocols from tactical information processors. This will provide a flexible capability for rapidly exchanging tactical information using a single database for translating various link formats while remaining completely independent of communications equipment and tactical data computing systems. Development of new capabilities in ATDLS includes the Joint Interface Control Officer Support System (JSS), Common Link Integration Processing (CLIP) and Dynamic Network Management (DNM). The Joint Interface Control Officer (JICO) Support System (JSS) will be the standard joint service toolset to monitor and control Multi-TADIL network architectures. The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and COTS technology refresh objectives and high throughput Link-16. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both USN and USAF sponsorship. The principal goal of CLIP is to develop a multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management (DNM) will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. DNM consists of different capabilities including network control technologies (NCT), new terminal protocols (time slot reallocation (TSR) and Stochastic Unified Multiple Access (SHUMA)) and has been significantly expanded to include a more robust TSR and adaptive multinetting. The DNM capability will be integrated into the JSS host system and also JTIDS, MIDS and Joint Tactical Radio System (JTRS) terminals. Tactical Data Link Shipboard Integration provides for the integration of transformational software (i.e. CLIP, MIDS-JTRS) onto shipboard platforms.</p> <p>(U) This project also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.</p> <p>(U) Additional terminal development costs are funded in program element 0604771D.</p>									

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links	PROJECT NUMBER AND NAME 2126 ATDLS Integration		
(U) B. Accomplishments/Planned Program				
F/A-18 MIDS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.778	0.000	0.000	0.000
RDT&E Articles Quantity				
FY 04 Accomplishments: Conducted F/A-18 MIDS Verification of Correction of Deficiencies (VCD) of remaining deficiencies identified during OPEVAL. Achieved Milestone C decision.				
Joint Interface Cont. Officer Spt Sys (JSS)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.550	4.200	27.568	18.437
RDT&E Articles Quantity			6	
<p>This funding includes the Navy's contribution to the JSS joint development initiative with the Air Force. The Air Force is funding the majority of the software development contract in FY 05.</p> <p>FY 04 Accomplishments: Achieved Milestone B decision. Awarded Phase I contract to develop a standard joint service toolset software to monitor and control multi-TADIL network architectures.</p> <p>FY 05 Plan: Conduct JSS Preliminary Design Review (PDR) of developed software. Award Phase II development contract for the continued development of the standard joint service toolset software to monitor and control multi-TADIL network architectures. Perform laboratory integration testing on engineering development model at contractor site.</p> <p>FY 06 Plan: Conduct development testing, operational testing and early operational assessment on JSS software capabilities and functionalities developed and to demonstrate readiness for Navy LRIP decision. Conduct Critical Design Review (CDR). Test DNM network control technology capabilities in JSS during development testing. Continue software development to fully implement the multi-TADIL architecture (MTA) planning capability and generation of OPTASK Link message on-line/off-line mode, the local JICO database repository (JDR); database management and joint symbology; Joint Range Extension (JRE); interfaces to the Theater Battle Management Core System (TBMCS); Network Design Facility (NDF) for assessing JTIDS Network Library; Spectrum toolkit for submit/receive frequency request; software for calculation of Time Slot Duty Factor (TSDF) and Link-16 dynamic network management. Procure six engineering development models (EDM) for TECHEVAL.</p> <p>FY 07 Plan: Continue software development to include the implementation of remote JDR; dynamic network management and reconfiguration lists in Link-16 message standards; gateways to be interfaced to variable message format (VMF) and Intelligent Broadcast System (IBS); interface and network management for Link-22; on-line and off-line training mode via simulation and computer based training; and system security administration/profile management to ensure data security integrity. Conduct development test and TECHEVAL on all software developed. Achieve Navy LRIP Decision.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,NBA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links	PROJECT NUMBER AND NAME 2126 ATDLS Integration		
(U) B. Accomplishments/Planned Program				
Common Link Integration Processing (CLIP)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.700	2.495	41.365	27.446
RDT&E Articles Quantity				
<p>This funding line includes the Navy's contribution to the CLIP joint development initiative with the Air Force. The Air Force is funding the software development contract in FY 05.</p> <p>FY 04 Accomplishments: Completed program specifications, requirements and documentation including contract request for proposal (RFP), statement of work, CDRLs and systems requirements document. Released RFP for CLIP Increments 1 through 4 software development. Commenced evaluation of CLIP software development proposals.</p> <p>FY 05 Plan: Achieve Milestone B Decision. Commence development of CLIP to provide a common interpretation of data link message standards and to minimize interoperability issues while reducing platform integration costs through a common software solution. Commence development of Increment 1 software and documentation to implement the CLIP architecture, Common Host Interface (CHI), Link-16/Joint Range Extension, data translation and forwarding capabilities. Conduct CLIP Increment 1 Systems Requirement Review (SRR) and PDR.</p> <p>FY 06 Plan: Conduct CLIP Increment 1 CDR. Conduct development testing of Increment 1 software capabilities and functionality. Commence development of Increment 2 software and documentation to implement the remaining Link-16 functionality, incorporate JRE, Variable Message Format (VMF), Wide-band Networking Waveform (WNN) messages, IP based applications, and N-series message standards. Conduct CLIP Increment 2 SRR, PDR and CDR.</p> <p>FY 07 Plan: Conduct CLIP Acceptance Testing (CAT) of Increment 1 software capabilities and functionality. Commence platform integration testing of Increment 1 software on lead air platform. Conduct development testing and CAT of Increment 2 software capabilities and functionality. Commence development of Increment 3 software and documentation to implement the functionality for Link-4A, Link-11, Link-11B, Link-22 and IP enterprise services. Incorporate JRE and VMF messages and complete data translation and forwarding capability. Complete N-series message interface. Conduct Increment 3 SRR, PDR and CDR. Commence development of Increment 4 software for Intelligence Broadcast Service (IBS) message and Tactical Targeting Network Technology (TTNT) interfaces. Conduct Increment 4 SRR. Achieve CLIP Increment 1 Milestone C Decision.</p>				
Dynamic Network Management	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	11.960	8.435	15.048	7.651
RDT&E Articles Quantity	1			
<p>FY 04 Accomplishments: Continued DNM development to provide automatic reconfiguration of Link-16 networks and dynamic reallocation of network capacity to meet emergent warfighter requirements in the field as operations evolve. Supported the development, test and evaluation of Link-16 terminal and test bed hardware and software modifications to implement DNM capability. Developed improved Link-16 capabilities including organic navigation. Conducted NCT/SHUMA Critical Design Review. Conducted development test on an interim JSS unit to test manual DNM technology.</p> <p>FY 05 Plan: Continue DNM development to provide automatic reconfiguration of Link-16 networks and dynamic reallocation of network capacity to meet emergent warfighter requirements in the field as operations evolve. Complete Link-16 terminal and test bed modifications. Perform software formal qualification tests (SFQT), link certification and participate in Fleet exercise to evaluate DNM maturity. Conduct TSR CDR. Commence design and development of platform integration of DNM into ship and aircraft. Integrate NCT capabilities into JSS. Develop DNM integrated logistics support products including system-operating procedures.</p> <p>FY 06 Plan: Continue DNM development expanding capability to support full multinet capability allowing for data forwarding between Link-16, Internet Protocol (IP) networks and New Joint Tactical Radio System (JTRS) waveforms. Complete integration of NCT capabilities into JSS. Conduct Multinetting CDR. Conduct SHUMA development and operational tests. Commence shipboard and aircraft integration of the DNM capabilities including the expanded TSR. Conduct TSR development test. Commence terminal recertification test. Conduct development test of multinetting capabilities. Continue support on DNM integrated logistic support products.</p> <p>FY07 Plan: Continue development of multinetting capabilities and migration efforts to Wideband Networking Waveform (WNN) and JTRS waveforms. Continue platform integration of DNM capabilities.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E,N/BA-7	0205604N Tactical Data Links	2126 ATDLS Integration		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget	32.462	15.330	28.703	24.866
FY 06 President's Budget	28.988	15.130	83.981	53.534
Total Adjustments	-3.474	-0.200	55.278	28.668
Summary of Adjustments				
Congressional Adjustments		-0.197		
Congressional Recissions		-0.003		
Reprogrammings	-3.108			
Programmatic Adjustments			54.817	28.027
Economic Assumptions			0.684	0.566
Pricing Adjustments			-0.223	0.075
SBIR/STTR Transfers	-0.366			
Subtotal	-3.474	-0.200	55.278	28.668
 (U) Schedule: Commencement of the F/A-18 Verification and Correction of Deficiencies (VCD) slipped from 2nd to 3rd quarter FY 04 due to the schedule slippage of the Joint Mission Planning System which was being concurrently tested with the F/A-18 MIDS. Contract award for the JSS software development slipped two months from June 2004 to August 2004 due to an administrative delay at the Air Force in releasing the Request for Proposal (RFP). The current JSS Program Schedule is shown. Contract award for the CLIP software development slipped from June 2004 to March 2005 due to a delay in release of the RFP and an extended proposal evaluation period. The current CLIP Program Schedule is shown. (U) Technical: Not applicable.				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N Tactical Data Links			PROJECT NUMBER AND NAME 2126 ATDLS Integration					

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
APN LINE LI 052500 F/A-18	37.619	47.000	39.600	46.200	48.100	49.100	27.993	20.962	Continuing	Continuing
RDT&E,DA	10.478	18.515	18.649	18.939	19.496	20.045	20.427	20.864	Continuing	Continuing
OPN LI 2614 ATDLS	15.267	2.371	14.102	19.246	28.458	26.245	4.081	0.000	Continuing	Continuing
RDT&E,AF 0207434F/5050	60.122	131.737	204.481	208.619	153.259	146.223			Continuing	Continuing

SCN - Funding for ATDLS hardware is not separately identified in the SCN budget exhibits.

RELATED RDT&E:

PE 0604771D/P771 - Link-16: System development and demonstration for a Joint Tactical Data Link (TDL).

PE 0604771D/P773 - MIDS: MIDS-LVT terminal development.

PE 0207434F/5050 - TDL System Integration

(U) E. ACQUISITION STRATEGY:

F/A-18 MIDS aircraft integration is utilizing cost plus fixed fee contracts on an R&D Basic Ordering Agreement with Boeing. For Common Link Integration Processing (CLIP), a competitive cost plus award fee/incentive fee contract will be awarded by the Navy to develop a single common data link integration solution that can be configured to satisfy a broad-range of platforms. The Air Force was designated as the acquisition executive for JICO Support System (JSS). For JSS Phase I, the government competed and awarded three firm fixed price contracts to Northrop Grumman Defense Missions, Lockheed Martin Corporation and Advanced Information Engineering Services Inc. for EDM system development and demonstration. For JSS Phase II, there will be a downselect to one vendor to complete the Phase II development, integration and test utilizing cost plus award fee, firm fixed price, time and material and cost reimbursable contract options. The Dynamic Network Management Network Controller Technology will be incorporated into JSS Block 1 and will utilize the contract for JSS. Remaining Dynamic Network Management development efforts will utilize existing development contracts with NGIT, DLS and BAE.

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Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			February 2005						
RDT&E,N/BA-7			0205604N Tactical Data Links			2126 ATDLS Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MIDS F/A-18 Integration	WX	Various	153.119								153.119	153.119
TADIL-J System Engineering	WX	SPAWARSYSCEN, San Diego, CA	28.233								28.233	28.233
TADIL-J System Engineering	Various	Various	4.654								4.654	4.654
MIDS on Ship	CPIF	BAE Systems, Wayne, NJ (DLS)	15.944								15.944	15.944
MIDS on Ship	Various	Various	44.331								44.331	44.331
Performance Upgrades	WX	SPAWARSYSCEN, San Diego, CA	14.213								14.213	14.213
Performance Upgrades	Various	Various	5.236								5.236	5.236
Air Defense System Integrator	CPFF	APC, Austin, TX	2.059								2.059	2.059
Dual Net Link-11	WX	Various	1.866								1.866	1.866
Korean Air Defense Sys Impr	CPFF	JHU/APL, Laurel, MD	0.900								0.900	0.900
DNMFL Prototypes	Various	Various	2.127								2.127	2.127
JSS Software Dev and Integration	FFP	ESC Hanscom AFB, MA*	8.778									
JSS Software Dev and Integration	CPAF/FFP	ESC Hanscom AFB, MA/TBD		3.508	11/04	19.396	11/05	13.856	11/06	Continuing	Continuing	Continuing
JSS Systems Engineering	CPFF	Galaxy Scientific, Arlington, VA	0.249	0.240	11/04	0.231	11/05	0.228	11/06	Continuing	Continuing	Continuing
JSS Systems Engineering	WX	SPAWARSYSCEN, San Diego, CA	0.193			1.015	11/05	0.590	11/06	Continuing	Continuing	
JSS Systems Engineering	Various	Various				0.560	Various	0.457	Various	Continuing	Continuing	
CLIP Dev	WX	SPAWARSYSCEN, San Diego, CA	0.568	1.021	11/04	1.789	11/05	1.738	11/06	Continuing	Continuing	Continuing
CLIP Dev	Various	Various	3.383	1.330	Various	1.351	Various	1.435	Various	Continuing	Continuing	Continuing
CLIP SW Dev	CPAF/IF	TBD				36.596	11/05	22.075	11/06	Continuing	Continuing	Continuing
DNM System Engineering & Integration	WX	SPAWARSYSCEN, San Diego, CA	4.438	2.678	11/04	5.292	11/05	3.083	11/06	Continuing	Continuing	Continuing
DNM Development	CPFF	Northrop Grumman IT, Reston, VA	3.747								3.747	3.747
DNM Development	MIPR	Warner Robbins AFB, GA	0.761	0.064	11/04	0.660	11/05	0.434	11/06	Continuing	Continuing	Continuing
DNM Development	CPIF	BAE Systems, Wayne, NJ (DLS)	0.117								0.117	0.117
DNM Systems Engineering	Various	Various	1.194	1.886	Various	0.574	Various	0.760	Various	Continuing	Continuing	Continuing
DNM Software Development	CPFF	TBD				1.430	12/05	0.651	11/06	Continuing	Continuing	
DNM Host Platform Integration	MIPR	GSA/SAIC, Arlington, VA				3.287	12/05	1.107	11/06	Continuing	Continuing	
Subtotal Product Development			296.110	10.727		72.181		46.414				
*JSS Phase I Software Development contracts awarded to three vendors: Northrop Grumman Defense Missions, Reston, VA; Lockheed Martin Corporation, Moorestown, NJ; and to Advanced Information Engineering Services, Inc., Buffalo, NY.												

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 17 of 23)

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R-1 SHOPPING LIST - Item No. 179

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)								DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E,N/BA-7			0205604N Tactical Data Links			2126 ATDLS Integration							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Test and Evaluation	Various	Various	4.025								4.025	4.025	
MIDS F/A-18 T&E	WX	SPAWARSYSCEN, San Diego, CA	12.774								12.774	12.774	
MIDS F/A-18 T&E	Various	Various	11.706								11.706	11.706	
MIDS on Ship T&E	PD	OPTEVFOR, Norfolk, VA	0.092								0.092	0.092	
MIDS on Ship T&E	WX	SPAWARSYSCEN, San Diego, CA	1.340								1.340	1.340	
MIDS Test Assets	SS/CPAF/IF	MIDSCO, Fairfield, NJ	6.594								6.594	6.594	
JSS T&E	WX	SPAWARSYSCEN, San Diego, CA				0.430	11/05	0.571	11/06	Continuing	Continuing		
JSS T&E	WX	OPTEVFOR, Norfolk, VA				0.440	11/05	0.457	11/06	Continuing	Continuing		
JSS T&E	WX	NCTSI, San Diego, CA				0.110	11/05	0.111	11/06	Continuing	Continuing		
JSS Test Articles	CPAF/FFP	ESC Hanscom AFB, MA/TBD				4.488	11/05	0.118	11/06				
JSS Test Articles	WX	SPAWARSYSCEN, San Diego, CA				0.440	11/05	1.542	11/06				
CLIP T&E	WX	SPAWARSYSCEN, San Diego, CA				0.660	11/05	0.971	11/06	Continuing	Continuing	Continuing	
Dynamic Network Management T&E	WX	SPAWARSYSCEN, San Diego, CA	3.167	1.046	11/04	1.650	11/05	0.717	11/06	Continuing	Continuing	Continuing	
Dynamic Network Management T&E	WX	OPTEVFOR, Norfolk, VA	0.214	0.333	11/04	0.660	11/05	0.151	11/06	Continuing	Continuing	Continuing	
Dynamic Network Management T&E	WX	Various	0.428	1.190	Various	0.787	Various	0.368	Various	Continuing	Continuing	Continuing	
ATDLS T&E Support	MIPR	GSA/SAIC		0.267	11/04	0.272	11/05	0.272	11/06	Continuing	Continuing		
Subtotal T&E			40.340	2.836		9.937		5.278					
Remarks:													
Engineering Support and Travel	Various	Various	11.753	1.567	Various	1.863	Various	1.842	Various	Continuing	Continuing	Continuing	
Subtotal Management			11.753	1.567		1.863		1.842					
Remarks:													
Total Cost			348.203	15.130		83.981		53.534					

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 19 of 23)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME				February 2005				
RDT&E,N/BA-7												0205604N Tactical Data Links												2126 ATDLS Integration								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones																																
MIDS																																
JSS																																
CLIP																																
DNM																																
Engineering Milestones																																
JSS																																
CLIP																																
DNM																																
Test & Evaluation Milestones																																
MIDS F/A-18																																
CLIP INCREMENT 1																																
CLIP INCREMENT 2																																

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The Joint Interface Control Officer (JICO) Support System (JSS) is a multi-service development effort and is currently funded by the Navy's Tactical Data Links International Program Office (PE 0205604N/2126) and the Air Force's Electronic Systems Center Tactical Data Links System Program Office (TDL SPO) (PE 0207434F/5050). The JSS Program schedule is shown above.

The CLIP Program is a joint initiative and is funded by various programs. The development of the CLIP software is funded by the Navy's Tactical Data Links International Program Office (PE 0205604N/2126) and the Air Force Tactical Data Links (TDL) Gateways and Network Management (TGN) System Program Office (PE 0207434F/5050). The integration of CLIP software is funded by platforms. The CLIP Program schedule is shown above.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 22 of 23)

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 23 of 23)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-07					0205620N Surface ASW Combat System Integration			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	22.599	20.860	4.519	9.980	10.404	10.586	10.765	11.003
0896 / AN/SQQ-89 Modifications	0.000	0.000	1.263	5.149	5.302	5.380	5.454	5.568
1916 / Surface ASW Systems Improvements	22.599	19.387	3.256	4.831	5.102	5.206	5.311	5.435
9627 / Marine Mammal Detection and Mitigation	0.000	1.473	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The objective of this Program Element (PE) is to significantly improve existing Surface Ship Sonar System Capabilities as well as quickly and affordably develop and integrate emergent transformational technologies.								
Project 0896 focuses on the identification, test and integration of the most promising ASW technologies into the AN/SQQ-89(V) Surface USW Combat System. This Project will provide a clear transition path for emergent transformational ASW technologies to be quickly and affordably developed and incorporated into the AN/SQQ-89(V). This Project will capitalize on a Rapid Technology Transition Process, enabling the aggressive pursuit of improvements to system portability, extension of interoperability with multiple platforms, and opportunity to export these capabilities Navywide. Time phased insertion of ASW COTS improvements will address the entire combat system, including new sensor integration, acoustics, fire control, contact management, performance prediction, operator productivity and on-board training.								
Project 1916 improves AN/SQQ-89(V) Measures of Performance (MOP) by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth. This Project will take advantage of the AN/SQQ-89(V) Open System Architecture and Acoustic Rapid COTS Insertion (ARCI) initiatives to develop and integrate a Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based Surface USW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 and DDG51 (FLT IIA) class ships. Additionally, via a spiral development process, this Project will continue to capitalize on the Open System Architecture of the AN/SQQ-89A(V)15 and ARCI-type initiatives. This will be accomplished via the incorporation of select Pre-Planned Product Improvements (P3I) and emergent, transformational ASW technologies (as developed under Project 0896) delivered to the AN/SQQ-89(V) prime integrator every two years.								
Project 9627 (established via FY 2005 Marine Mammal Detection and Mitigation (MMDM) Congressional Add) will implement and improve technology that was developed under a Phase I and Phase II Small Business Technology Transfer (STTR) that will allow the Navy to detect marine mammals vocalizing in the vicinity of naval vessels. Once the system alerts on the marine mammal vocalizations, the system will localize marine mammals and provide mitigation recommendations to the sonar operator or ship's captain, e.g., cease sonar operations, maneuver the vessel, etc.								
Defense Emergency Response Funds (DERF) Funds:								
Not Applicable								

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 1 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	0.000	1.263	5.149	5.302	5.380	5.454	5.568
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AN/SQQ-89 Modifications Project will focus on the identification, test, integration and delivery of the most promising ASW technologies to the AN/SQQ-89(V) Surface USW Combat System. This Project will provide a clear transition path for emergent transformational ASW technologies (ie, through Task Force ASW initiatives) to be quickly and affordably developed and incorporated. This Project will capitalize on a Rapid Technology Transition Process, enabling the aggressive pursuit of improvements to system portability, extension of interoperability with multiple platforms, and opportunity to export these capabilities Navywide. Time phased insertion of ASW COTS improvements will address the entire combat system, including new sensor integration, acoustics, fire control, contact management, performance prediction, operator productivity and on-board training.

This Project will take technologies developed by PEO IWS 5 (Program Executive Office for Integrated Warfare Systems, Undersea Systems Program Office), Office of Naval Research (ONR), Defense Advanced Research Planning Agency (DARPA) and the Oceanographer of the Navy that achieve significant improvements in ASW effectiveness and integrate them into the AN/SQQ-89(V) Surface USW Combat System. The following improvements have been considered in the near term: Develop and integrate the Low Frequency Array's (LFA) low frequency coherent multi-static processing capability for the AN/SQR-19 towed array group; leverage ARCI's Sparsely Populated Volumetric Array (SPVA) technology to increase bandwidth and incorporate acoustic intercept capability for the surface community; develop a Data Fusion capability that will integrate ASW, radar and other non-acoustic sensors into an integrated display environment; and develop an effective and affordable underwater Acoustic Communications (ACOMMS) system for seamless communications between ASW platforms. Additional improvements will be developed and integrated as new, promising technologies are identified.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration	PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Identification and Integration of ASW Technologies Into AN/SQQ-89(V) Surface USW Combat System			1.263	4.649
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;">FY06-07: Identify technologies developed by PEO IWS 5, Office of Naval Research (ONR), Defense Advanced Research Planning Agency and the Oceanographer of the Navy that may achieve significant improvements in ASW effectiveness if integrated into the AN/SQQ-89(V) Surface USW Combat System. Selected promising technologies will be sufficiently integrated into adjunct systems installed in the AN/SQQ-89(V) such as the Scaled Improved Performance Sonar (SIPS) so that at-sea tests can be conducted and performance assessed. Integration of successful technologies will be completed for installation on DDG51 class ships as part of SIPS software updates. Successful software will also be passed on to the AN/SQQ-89(V) prime integrator as part of the PRP build-test-build process under Project 1916, for fielding in the open system architecture AN/SQQ-89A(V)15 USW Combat System that is being installed on CGs 59-73 and DDGs 79-112.</div>				
	FY 04	FY 05	FY 06	FY 07
At-Sea Testing of Select ASW Technologies				0.500
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">FY07: Coordinate and conduct at-sea test of select emergent, significant ASW technologies. Assess results.</div>				
	FY 04	FY 05	FY 06	FY 07
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px;"></div>				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 3 of 19)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration	PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications			
C. PROGRAM CHANGE SUMMARY:					
Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget		0.000	0.000	1.259	5.321
FY06 President's Budget		0.000	0.000	1.263	5.149
Total Adjustments		0.000	0.000	0.004	-0.172
Summary of Adjustments					
Other Misc. Adjustments				0.004	-0.172
Subtotal		0.000	0.000	0.004	-0.172
Schedule:					
None					
Technical:					
None					

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EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07			PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration			PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN BLI 2136/ AN/SQQ-89 Surface ASW Combat System	16.2	11.0	25.5	37.7	37.5	98.9	93.3	106.2	Continuing	Continuing
RDT&E PE 0603553N/ Surface ASW	11.6	17.5	17.3	18.0	18.6	19.0	19.5	19.9	Continuing	Continuing

E. ACQUISITION STRATEGY:

- Identify, test, integrate and deliver promising evolutionary and transformational technologies to AN/SQQ-89(V) prime integrator at select intervals.
- Award new, competitive contract for AN/SQQ-89(V) prime vendor/integrator in FY 2007.

F. MAJOR PERFORMERS:

- Advanced Acoustic Concepts (AAC), NY.
- Applied Hydro-Acoustics Research (AHA), MD.
- General Dynamics-AIS (formerly DSR), VA.
- Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD.
- Lockheed Martin, NY - Prime AN/SQQ-89(V) Production and Design Agent.
- Naval Sea Systems Command, Newport, RI - AN/SQQ-89(V) Technical Design Agent support.
- Naval Sea Systems Command, Dahlgren, VA - AN/SQQ-89(V) Technical Design Agent support.

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Exhibit R-3 Cost Analysis (page 1)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-07			0205620N Surface ASW Combat System Integration			0896 AN/SQQ-89 Modifications								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W & S/W Development	C/CPFF	AAC, NY	0.000					0.185	11/05	0.765	11/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPAF	AHA, MD	0.000					0.125	11/05	0.520	11/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPFF	GD-AIS, VA	0.000					0.125	12/05	0.520	12/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	0.000					0.150	12/05	0.475	12/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPAF	LOCKHEED MARTIN, NY	0.000					0.215	11/05			0.000	0.215	
Primary H/W & S/W Development	C/CPAF	TBD, TBD (FY07 Award)	0.000							0.638	11/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA/DAHLGREN, VA	0.000					0.100	10/05	0.467	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA/NEWPORT, RI	0.000					0.100	10/05	0.467	10/06	Continuing	Continuing	
Primary H/W & S/W Development	Var.	Var.	0.000					0.099	10/05	0.630	10/06	Continuing	Continuing	
Subtotal Product Development			0.000	0.000		0.000		1.099		4.482		Continuing	Continuing	
Remarks: Budgeted for award fees (\$M): 0.019 in FY06 (Lockheed Martin, NY). Lockheed Martin's performance has been excellent, earning close to 100% of possible award fee for the most recent award fee periods.														
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 19)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-07			0205620N Surface ASW Combat System Integration			0896 AN/SQQ-89 Modifications								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	WX	NAVSEA/NEWPORT, RI	0.000							0.500	10/06	Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.000		0.000		0.500		Continuing	Continuing	
Remarks:														
Program Management Support	Var.	Var.	0.000					0.164	10/05	0.167	10/06	Continuing	Continuing	
			0.000	0.000		0.000		0.164		0.167		Continuing	Continuing	
Remarks:														
Total Cost			0.000	0.000		0.000		1.263		5.149		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 19)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE:									
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-07									0205620N Surface ASW Combat System Integration										0896 AN/SQQ-89 Modifications													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition/Contract Milestones/Reviews													New Contract Award - AN/SQQ-89(V) Prime Vendor/Integrator																			
Identification of Promising ASW Technologies for Test/Integration																																
Select Technologies for Integration Into AN/SQQ-89(V) Adjunct Systems																																
Integration of Select Technologies Into AN/SQQ-89(V) Adjunct Systems for At-Sea Test																																
Complete Integration of Successful Technologies for Installation via S/W Upgrades on Adjuncts and A(V)15																																
Test & Evaluation Milestones																																
At-Sea Test and Evaluation of Select Technologies on AN/SQQ-89(V) Adjunct Systems																																
Production Milestones																																
Delivery to AN/SQQ-89(V) SIPS Adjunct Program																																
Delivery to AN/SQQ-89A(V)15 Spiral Development Program																																

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 19)

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Exhibit R-4a, Schedule Detail
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	22.599	19.387	3.256	4.831	5.102	5.206	5.311	5.435
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface ASW Systems Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This Project, will improve AN/SQQ-89(V) Measures of Performance (MOP) by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth.

This Project will take advantage of the AN/SQQ-89(V) Open System Architecture and Acoustic Rapid COTS Insertion (ARCI) initiatives to develop and integrate a Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based Surface USW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 and DDG51 (FLT IIA) class ships. This Project contracted for the procurement of the AN/SQQ-89A(V)15 Pre-Production Prototype in FY 2003 and subsequent installation (on CG73) in FY 2004, and will finance the Developmental and Initial Operational Test & Evaluation events scheduled in FY 2004 and FY 2005 respectively.

The open system architecture and high performance COTS processing hardware on ships fielded with the AN/SQQ-89A(V)15 combat system provides an opportunity to integrate select Pre-Planned Product Improvements (P3I) as well as emergent, transformational ASW technological improvements (as developed under Project 0896) that were previously unachievable. The USW suites on these ships will require periodic upgrades to remain effective well into the 21st century. To achieve this, this Project will package and deliver incremental upgrades every two years to the AN/SQQ-89A(V)15 production program via a spiral development process by inserting maturing USW technologies, such as enhancements to improve USW performance in the littoral and reduce manning on AN/SQQ-89(V) equipped ships, active classification sonar upgrades, marine mammal detection and mitigation, Multi-Static Active ASW, new RAPTOR radar processing, and upgraded technologies such as algorithm improvements, increased passive narrow band (PNB) frequency, improved extended echo ranging (EER) and beamformer improvements. A rigorous testing program is also required to ensure that these performance enhancements are operationally effective and suitable.

This PE reflects a Congressional Add in FY 2004 and FY 2005 under Project 1916 for 'Surface Ship ASW R&D Improvements'. Funds will be used to complete the development of promising technologies for at-sea tests in representative warfighting environments. Once satisfactorily tested, technologies will be transitioned to variants of the AN/SQQ-89(V) USW Combat System. Funding will be used to continue the development of Surface Ship ASW improvements through portable, modular software to ease transition to new families of COTS hardware and low cost incorporation of improved processing algorithms.

This PE reflects a Congressional Add in FY 2004 and FY 2005 under Project 1916 for 'Common Surface and Air Undersea Warfare'. Once the Peer Review team determines which legacy equipment to replace/upgrade, funds will be used to develop the Common Surface and Air USW integration system baseline that will be integrated and installed on a DDG51 class ship for testing and evaluation. Funding will be used to continue the Air and Surface Ship Peer Review Process integration approach using an Open Architecture (OA) system to develop and test a single "Best of Breed" Common Airborne Undersea Sensor Software (CAUSS) processing baseline that will be used by all USW sonobuoy communities.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration	PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Surface Ship ASW R&D Improvements	9.969	7.365		
RDT&E Articles Quantity				
<p>FY04: Reflects Congressional Add for 'Surface Ship ASW R&D Improvements' to complete the development of promising technologies for at-sea tests in representative warfighting environments. Once satisfactorily tested, technologies were identified for transitioning to variants of the AN/SQQ-89(V) USW Combat System. FY05: Continue the development of Surface Ship ASW improvements through use of portable, modular software to ease transition to new families of COTS hardware and low cost incorporation of improved processing algorithms. Address critical surface sonar capability shortfalls such as: active processing in littoral areas, torpedo defense, and automation technology for reduced manning by using the Advanced Processing Builds (APB) model that has rapidly delivered transformational modernization through exploitation of application reuse and low cost incorporation of improved processing algorithms.</p>				
	FY 04	FY 05	FY 06	FY 07
Common Surface and Air Undersea Warfare	0.974	1.375		
RDT&E Articles Quantity				
<p>FY04: Reflects Congressional Add for 'Common Surface and Air Undersea Warfare' to develop the Common Surface and Air Undersea Warfare integration system baseline that was integrated and installed on a DDG51 class ship for testing and evaluation. FY05: Continue the Air and Surface Ship Peer Review Process integration approach using an Open Architecture (OA) system to develop and test a single "Best of Breed" Common Airborne Undersea Sensor Software (CAUSS) processing baseline that will be used by all USW sonobuoy communities. This capability will be demonstrated using network based, mainstream technology, to evaluate increased USW situational awareness, accuracy, and reduced USW prosecution time through automated fusion and connectivity of shipboard USW and airborne sensor data contacts.</p>				
	FY 04	FY 05	FY 06	FY 07
AN/SQQ-89A(V)15 Delivery and Installation	1.486			
RDT&E Articles Quantity				
<p>FY04: Contracted for installation of AN/SQQ-89A(V)15 Pre-Production Prototype on CG73, provide associated Installation Checkout (INCO) support.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration	PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
LAMPS Mk III Blk II CAUSS & Ku Band Integration	0.586	0.500		
RDT&E Articles Quantity				
FY04-05: Continue the integration of the LAMPS Mk III Blk II Common Airborne Undersea Sensor Software (CAUSS) and Ku Band on-board AN/SQQ-89(V) platforms, including the AN/SQQ-89A(V)15.				
	FY 04	FY 05	FY 06	FY 07
AN/SQQ-89(V) Test & Evaluation Program	0.519	0.690	0.600	0.700
RDT&E Articles Quantity				
FY04-07: Provide AN/SQQ-89(V) test and evaluation planning support, update Test & Evaluation Master Plan (TEMP) to reflect AN/SQQ-89A(V)15 test program, coordinate and conduct roll-on roll-off tests of AN/SQQ-89(V) systems, provide performance data and environmental analysis, Independent Verification & Validation (IV&V), and modeling and simulation using MOP and measures of effectiveness (MOE) methods.				
	FY 04	FY 05	FY 06	FY 07
AN/SQQ-89A(V)15 At-Sea Testing	2.350	2.110		0.700
RDT&E Articles Quantity				
FY04: Coordinated and conducted Developmental Test DT-III AQ of the SQQ-89A(V)15 Pre-Production Prototype and coordinated plan for FY 2005 Initial Operational Test & Evaluation OT-III K. Began to resolve issues that arose from FY04 DT-III AQ. FY05: Complete resolution of issues that arose from FY04 DT-III AQ. Coordinate and conduct Initial Operational Test & Evaluation OT-III K of the AN/SQQ-89A(V)15 Pre-Production Prototype system. Resolve remaining delta issues that arose from FY05 OT-III K. FY07: Coordinate and conduct at-sea demonstration and subsequent combined Developmental/Operational Test of AN/SQQ-89A(V)15 Build 1. Resolve any issues that arise.				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration	PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Enhance SQQ-89A(V)15 Open System Architecture</td><td style="text-align: center;">6.715</td><td style="text-align: center;">7.347</td><td style="text-align: center;">2.656</td><td style="text-align: center;">3.431</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p>FY04-05: Development of a common superset software baseline for AN/SQQ-89A(V)15 (Backfit on CG47 and DDG51 class) and AN/SQQ-89(V)15 w/ EC 200 (Forward fit on DDG51 class). FY05-07: Develop modest enhancements to the AN/SQQ-89A(V)15 Open System Architecture via the incorporation of transformational technologies through a spiral development process. Items include Explosive Source integration with AN/SQQ-89(V) processes, simplification of displays and active processing, and development of improved torpedo detection algorithms to be incorporated into the Torpedo Recognition and Alertment Functional Segment (TRAFFS) for Build 1 delivery to CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs.</p></div>						FY 04	FY 05	FY 06	FY 07	Enhance SQQ-89A(V)15 Open System Architecture	6.715	7.347	2.656	3.431	RDT&E Articles Quantity				
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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																																																								
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">23.118</td> <td style="text-align: right;">10.612</td> <td style="text-align: right;">3.519</td> <td style="text-align: right;">4.913</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">22.599</td> <td style="text-align: right;">19.387</td> <td style="text-align: right;">3.256</td> <td style="text-align: right;">4.831</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.519</td> <td style="text-align: right; border-top: 1px solid black;">8.775</td> <td style="text-align: right; border-top: 1px solid black;">-0.263</td> <td style="text-align: right; border-top: 1px solid black;">-0.082</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.125</td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.479</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.010</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Misc. Adjustments</td> <td style="text-align: right;">-0.030</td> <td></td> <td style="text-align: right;">-0.263</td> <td style="text-align: right;">-0.082</td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">8.900</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.519</td> <td style="text-align: right; border-top: 1px solid black;">8.775</td> <td style="text-align: right; border-top: 1px solid black;">-0.263</td> <td style="text-align: right; border-top: 1px solid black;">-0.082</td> </tr> </tbody> </table> <div style="margin-left: 40px;"> <p>Schedule:</p> <p>None</p> <p>Technical:</p> <p>None</p> </div>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President's Budget	23.118	10.612	3.519	4.913	FY06 President's Budget	22.599	19.387	3.256	4.831	Total Adjustments	-0.519	8.775	-0.263	-0.082	Summary of Adjustments					Congressional undistributed reductions		-0.125			SBIR/STTR Transfer	-0.479				Economic Assumptions	-0.010				Other Misc. Adjustments	-0.030		-0.263	-0.082	Congressional increases		8.900			Subtotal	-0.519	8.775	-0.263	-0.082
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EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005																																																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-07			PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration			PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements																																																	
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th>Line Item No. & Name</th> <th>FY 2004</th> <th>FY 2005</th> <th>FY 2006</th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>OPN BLI 2136/ AN/SQQ-89 Surface ASW Combat System</td> <td>16.2</td> <td>11.0</td> <td>25.5</td> <td>37.7</td> <td>37.5</td> <td>98.9</td> <td>93.3</td> <td>106.2</td> <td>Continuing</td> <td>Continuing</td> </tr> <tr> <td>OPN BLI 0960/ Cruiser Modernization</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SCN BLI 2122/ DDG-51</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <ul style="list-style-type: none"> - Completed AN/SQQ-89A(V)15 Pre-Production Prototype 1Q FY 2004, performed installation 3Q FY 2004, conducted 4Q FY 2004-1Q FY 2005 developmental test, and will conduct initial operational test 3Q FY 2005. Via spiral development process, incorporate evolutionary and transformational technologies into AN/SQQ-89(V) systems at scheduled intervals. - Award new, competitive contract for AN/SQQ-89(V) prime vendor/integrator in FY 2007. <p>F. MAJOR PERFORMERS:</p> <ul style="list-style-type: none"> - Advanced Acoustic Concepts (AAC), NY - SBIR Phase III contract for common acoustic processor, prime contractor for FY 2004/2005 Congressional Adds for 'Common Surface and Air Undersea Warfare' - Applied Hydro-Acoustics Research (AHA), MD - SBIR Phase III contract for common acoustic processor and beamformer processing for MFTA. - General Dynamics-AIS (formerly DSR), VA - SBIR Phase III contract for common acoustic processor, prime contractor for FY 2004/2005 Congressional Adds for 'Surface Ship ASW R&D Improvements' to complete the development of promising technologies for at-sea tests in representative warfighting environments. - Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - Design, development and integration of MFTA, Torpedo Detection Classification and Localization (TDCL) improvements, and emerging active sonar technologies into the AN/SQQ-89(V). - Lockheed Martin, NY - Prime AN/SQQ-89(V) Production and Design Agent. This contract was competitively awarded in May 2002. - Naval Sea Systems Command, Newport, RI - AN/SQQ-89(V) Technical Design Agent support. - Naval Sea Systems Command, Dahlgren, VA - AN/SQQ-89(V) Technical Design Agent support. 												Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	OPN BLI 2136/ AN/SQQ-89 Surface ASW Combat System	16.2	11.0	25.5	37.7	37.5	98.9	93.3	106.2	Continuing	Continuing	OPN BLI 0960/ Cruiser Modernization											SCN BLI 2122/ DDG-51										
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Exhibit R-3 Cost Analysis (page 1)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RD&E, N / BA-07			0205620N Surface ASW Combat System Integration			1916 Surface ASW Systems Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W & S/W Development	C/CPFF	AAC, NY	10.132	0.353	01/04	1.596	12/04	0.150	11/05			0.000	12.231	
Primary H/W & S/W Development	C/CPFF	AHA, MD	5.674	0.108	02/04							0.000	5.782	
Primary H/W & S/W Development	C/CPFF	GD-AIS, VA	6.138	4.323	02/04	7.365	02/05					0.000	17.826	
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	8.938	0.529	01/04	0.155	12/04	0.155	12/05	0.155	12/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPAF	LOCKHEED MARTIN, NY	48.528	9.483	11/03	3.622	11/04	0.500	11/05			0.000	62.133	
Primary H/W & S/W Development	C/CPAF	TBD, TBD (FY07 Award)	0.000							1.050	11/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA/DAHLGREN, VA	8.529	0.428	11/03	0.641	10/04	0.450	10/05	0.505	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA/NEWPORT, RI	28.701	0.831	11/03	1.043	11/04	0.884	10/05	0.900	10/06	Continuing	Continuing	
Primary H/W & S/W Development	Var.	Var.	33.709	3.435	10/03	1.919	10/04	0.264	10/05	0.561	10/06	Continuing	Continuing	
Subtotal Product Development			150.349	19.490		16.341		2.403		3.171		Continuing	Continuing	
Remarks: Budgeted for award fees (\$M): 0.308 in FY04, 0.230 in FY05, 0.032 in FY06 (Lockheed Martin, NY). Lockheed Martin's performance has been excellent, earning close to 100% of possible award fee for the most recent award fee periods.														
Engineering & Technical Svcs (ETS)	Var.	Var.	0.900									0.000	0.900	
Studies, Analyses & Evaluation (SAE)	Var.	Var.	1.500									0.000	1.500	
Subtotal Support			2.400	0.000		0.000		0.000		0.000		0.000	2.400	
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-07			PROGRAM ELEMENT 0205620N Surface ASW Combat System Integration			PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental & Operational T&E	WX	NAVSEA/NEWPORT, RI	3.331	2.350	11/03					0.700	10/06	Continuing	Continuing	
Developmental & Operational T&E	RX/WX	COMOPTEVFOR, VA	0.833			2.040	12/04					0.000	2.873	
Developmental & Operational T&E	WX	NAVSEA/DAHLGREN, VA	0.000			0.070	10/04					0.000	0.070	
Miscellaneous T&E	Var.	Var.	4.242	0.219	11/03	0.390	10/04	0.300	10/05	0.400	10/06	Continuing	Continuing	
Subtotal T&E			8.406	2.569		2.500		0.300		1.100		Continuing	Continuing	
Remarks:														
Program Management Support	Var.	Var.	6.826	0.390	10/03	0.396	10/04	0.403	10/05	0.410	10/06	Continuing	Continuing	
Travel	Var.	Var.	1.304	0.150	10/03	0.150	10/04	0.150	10/05	0.150	10/06	Continuing	Continuing	
			8.130	0.540		0.546		0.553		0.560		Continuing	Continuing	
Remarks:														
Total Cost			169.285	22.599		19.387		3.256		4.831		Continuing	Continuing	
Remarks:														










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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 17 of 19)

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EXHIBIT R4, Schedule Profile																							DATE:				FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-07									0205620N Surface ASW Combat System Integration												1916 Surface ASW Systems Improvements												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition/Contract Milestones/Reviews								A(V)15 IOC (CG73) 								New Contract Award - AN/SQQ-89(V) Prime Vendor/Integrator 																	
AN/SQQ-89A(V)15 Pre-Prdtn Prototype Phase																																	
AN/SQQ-89A(V)15 Functional System Development Government Acceptance Test (GAT)																																	
AN/SQQ-89A(V)15 Pre-Prdtn Prototype Delivery	 Assembly & Test	 Delivery		Installation on CG73 																													
AN/SQQ-89A(V)15 Software Delivery to System Integrator via Spiral Development Process																 Build 1											 Build 2					 Build 3	
Test & Evaluation Milestones	 TRR																																
Developmental Test & Evaluation																																	
Initial Operational Test & Evaluation																																	
Combined Developmental/Operational Test & Evaluation																																	
Production Milestones																																	
Installations - OPN BLI 2136 (DDG FLT IIA Backfit)																																	

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 18 of 19)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 19 of 19)

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7					MK48 ADCAP/0205632N			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	17.828	21.367	21.619	25.761	26.690	27.308	28.085	28.917
MK48 ADCAP/0366	17.828	21.367	21.619	25.761	26.690	27.308	28.085	28.917
Quantity of RDT&E Articles	6	1		1	1	1	1	1
Note: \$2.1M Congressional Plus-up for MK48 ADCAP Torpedo APB Improvements in (PE 0603561N/9039) for FY05.								
A. (U) Mission Description and Budget Item Justification: MK48 ADCAP RDT&E program executes spiral development of weapon performance improvements in three development product areas: (1) Common Broadband Advanced Sonar System (CBASS); (2) Advanced Processor Builds (APBs), and (3) Torpedo Technology Insertion. The budget enables ACAT III development to address CNO defined capability-based requirements and mission needs. This PE (0205632N/0366) is tied to development programs that leverage a Congressionally funded Torpedo APB program (in PE 0603561N/9039), a joint US/Australia, Armaments Cooperative Project to develop MK48 ADCAP, and Future Naval Capability technologies being developed by ONR.								
(U) Countermeasure (CM) sophistication and availability on the open market directly affects ADCAP kill proficiency and its ability to counter rapidly evolving threats. The focus of the MK 48 ADCAP torpedo R&D program for FY01 and out shifted from being primarily concentrated on Software Block Upgrade efforts towards coordinated hardware upgrades, rapid Commercial-Off-the-Shelf insertion, and Torpedo APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The Common Broadband Advanced Sonar System (CBASS) program will develop and field a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS will develop 22 test articles (2 test vehicles and 20 Engineering Development Models (EDMs)). CBASS met Milestone II requirements on 6 March 1998 and received MDA approval to proceed into EMD. Full rate production and IOC are scheduled for FY06. The Commonwealth of Australia, Royal Australian Navy (RAN) is participating to jointly develop CBASS torpedo and signed an Armaments Cooperative Project Agreement Mar 2003. The intent of the CBASS program is to achieve improvements in shallow water torpedo performance.								
(U) The MK 48 ADCAP (Advanced Capability) torpedo R&D program focuses on two specific areas near term: Torpedo Advanced Processor Builds (APBs) and broadband sonar capability. The Chief of Naval Operations continues to stress shallow water (less than 600 feet) as a critical operating area to counter third world diesel electric submarines. Torpedo testing in shallow water has demonstrated that in-service ADCAP has less than full capability in this difficult environment. However, this testing, in conjunction with laboratory simulation efforts, has shown that significant performance improvements can be made by implementing changes to weapon tactics and software algorithms. Development, implementation and testing of these changes is being accomplished under the Torpedo APB program. This program also leverages the RAN joint torpedo program and Future Naval Capability (FNC) technologies being developed by the Office of Naval Research (ONR) in the areas of torpedo broadband signal processing, tactics processing, and alertment.								
(U) The Torpedo Technology Insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the R&D community (6.2/6.3) and contractors). This approach will incorporate developmental testing of the Future Naval Capability (FNC) transitioning technologies for ADCAP upgrades in the areas of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and depth. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.								

R-1 SHOPPING LIST - Item No. 175

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 1 of 9)

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7		R-1 ITEM NOMENCLATURE MK48 ADCAP/0205632N		
B. Accomplishments/Planned Program				
TORPEDO APB	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.098	10.647	12.573	15.523
RDT&E Articles Quantity*	1	1		1
* Denotes Torpedo APB software builds				
<p>FY04 - Released operational software to the Fleet (version 21.6.2). APB efforts included a Step 2 assessment by the The Torpedo Development Working Group (TDWG) and a Step 2 down select. A System Concept Review (SCR) was conducted April 7 to brief stakeholders on the functionality and predicted performance of Spiral 1 candidates. Concurrence from Fleet and OPNAV on content of Spiral 1 obtained. Initiated Mod6 ACOT software build as part of Spiral 2.</p> <p>FY05 - Torpedo Advanced Processor Build efforts in order to address fleet identified performance priorities for MK48 ADCAP MODS and to address broadband algorithms. Funding will provide for rapid delivery of incremental software improvements to fielded MODS torpedoes and will include budgeting previously allocated from Congressional plus-ups. Efforts include software coding, modeling and simulation of software releases (including development and validation of models) and engineering tests in water for evaluation of proposed releases. Torpedo APB software build release planned in FY05 (Spiral 1 Phase 1).</p> <p>FY06 - Torpedo Advanced Processor Build efforts to address fleet identified performance priorities for the Mk48 ADCAP torpedo. FY06 to include developmental and operational testing for Spiral 1.</p> <p>FY07 - Spiral 1 Phase 2 torpedo APB software build planned for release in FY07 which provides full Spiral 1 capability and torpedo effectiveness gain. Efforts to focus on APB Spiral 2 development in preparation for software release in FY08. Tasking to include software coding, modeling and simulation and engineering test in water. Steps in the APB process include 1) evaluation, 2) assessment, 3) implementation, and 4) system assessment.</p>				
CBASS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	7.755	7.996	2.390	0.000
RDT&E Articles Quantity	5			
<p>FY04- Final CBASS kits (preamplifiers and BSARs) of 20 total delivered by Northrop Grumman. Integration of CBASS prototype hardware and software components and test equipment. Completed ACOT-GCB hardware integration. Conducted software testing, modeling and simulation predictions, and initial check-out in-water testing of EDM vehicles. Initiated in-water test program.</p> <p>FY05- Conduct in-water developmental testing, technical and operational testing with CBASS EDM vehicles. Efforts involve torpedo preparations, model validation, post-run analysis, and range preparations including cooperative test series scheduled in Australia as part of joint US/Australia Armaments Cooperative Project.</p> <p>FY06- Complete In-water developmental, technical, and operational testing in preparation for CBASS MS III and IOC planned for FY06.</p> <p>FY07- CBASS development completed in FY06.</p>				

R-1 SHOPPING LIST - Item No. 175

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 2 of 9)

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CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7		R-1 ITEM NOMENCLATURE MK48 ADCAP/0205632N	

B. Accomplishments/Planned Program (Cont.)

OPTEVFOR	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.525	1.624	0.500	0.500
RDT&E Articles Quantity				

FY04- Provide for accreditation requirements for shallow water environments required prior to OPEVAL and provide developmental test support.

FY05- Provide for accreditation requirements and developmental test support for shallow water environments required prior to OPEVAL.

FY06- Conduct analysis and prepare final report for test and evaluation (OPEVAL) efforts prior to CBASS Torpedo release.

FY07- Provide for accreditation requirements and conduct analysis relating to APB software release planned in FY08.

TECHNOLOGY INSERTIONS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.450	1.100	6.156	9.738
RDT&E Articles Quantity				

FY04- Performed and completed advanced technology fiber optic studies; identified the candidate advanced technologies for first spiral bundle.

FY05 - Define a series of spiral development packages of several hardware improvements to build on proven torpedo hardware platforms.

Start development efforts (including planning and systems engineering) that would implement these new technologies into the latest MK48 ADCAP torpedoes. Award contracts to industry to develop technologies.

FY06- Transition torpedo technologies selected under Torpedo Technology Insertion program. Analysis of available technology solutions against desired performance objectives, and continue integration of first technology insertion package. Conduct System Design Review for Spiral 1.

FY07- Finalization of Spiral 1 development efforts prior to developmental and operational testing in FY08. Efforts to include a Preliminary Design Review.

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Exhibit R-2, RDT&E Budget Item Justification

(Exhibit R-2, page 3 of 9)

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	R-1 ITEM NOMENCLATURE MK48 ADCAP/0205632N			
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)	17.227	21.620	22.131	26.018
Current President's Budget (FY 06 Pres Controls):	17.828	21.367	21.619	25.761
Total Adjustments	0.601	-0.253	-0.512	-0.257
Summary of Adjustments				
Programmatic adjustments		-0.004	-0.512	-0.257
Management Improvements	-0.045			
Efficiencies/Revised Econ. Assumptions	-0.146			
Non-pay Inflation Savings	-0.016			
SBIR	-0.049			
Section 8105		-0.001		
Section 8122		-0.065		
Section 8131		-0.125		
FY05 Sec. 8028		-0.058		
Execution Realignment	0.900			
Cancelled Accounts	-0.043			
Subtotal	0.601	-0.253	-0.512	-0.257
Schedule: Not Applicable.				
Technical: Not Applicable.				

R-1 SHOPPING LIST - Item No. 175

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 4 of 9)

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE:							
						February 2005							
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE								
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7					MK48 ADCAP/0205632N								
D. OTHER PROGRAM FUNDING SUMMARY:					FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete CONT.
MK48 ADCAP MODS (WPN/PE0204284N/BA-3/P-1 Item 322500)					59.506	60.949	61.309	62.579	64.605	66.239	67.92	69.551	
Sub. Tactical Warfare Systems (RDT&E/PE0603562N/BA-4/1739)					6.939	5.900	7.125	10.369	9.911	10.233	10.487	10.722	
Advanced Submarine Systems (RDT&E/PE0603561N/BA4/9039)					85.693	88.188	162.953	208.732	225.092	247.091	249.240	227.436	
E. ACQUISITION STRATEGY:													
CBASS EMD contract was competitively awarded among qualified ADCAP producers. Sole Source Production Contract awarded FY 2004 for MK48 ADCAP MODS, Lightweight MK54 and CBASS kits, including units procured for the Royal Australian Navy (RAN).													
LRIP Contract for CBASS units awarded in FY 2004 and to include units procured in support of the RAN.													
Tech Insertion Spiral 1 EDM contract(s) to be awarded among qualified producers.													
F. MAJOR PERFORMERS:													
NUWC Division Newport, Newport, RI - System Integrator and Software Developer. Continued integration and development testing of CBASS hardware and software components and test equipment.													
Raytheon awarded Sole Source Production Contract for MK48 ADCAP MODS, Lightweight MK54 and CBASS kits, including RAN units.													
Northrop Grumman, Annapolis, MD - Fabricated and delivered CBASS EDM hardware (CBASS kits consisting of preamps and BSARs).													

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Exhibit R-2, RDT&E Budget Item Justification

(Exhibit R-2, page 5 of 9)

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Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER									
RDT&E, N/BA-7			MK48 ADCAP/0205632N			MK48 ADCAP/0366									
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	WR	NUWC NPT	CONT.	0.776	10/03	0.860	10/04	3.056	10/05	4.388	10/06	CONT.	CONT.	N/A	
Primary Hardware Development	Various	Various - TBD	0.000	0.000		0.000		2.750	12/05	5.000	12/06	CONT.	CONT.	N/A	
Primary Hardware Development	C,CPIF	Northrop Grumman	31.674	1.222	11/03	0.200	11/04	0.000		0.000		0.000	33.096	33.096	
Systems Engineering	WR	NUWC NPT	CONT.	4.201	10/03	5.807	10/04	6.199	10/05	5.711	10/06	CONT.	CONT.	N/A	
Licenses															
Tooling															
GFE															
Award Fees															
Subtotal Product Development			CONT.	6.199		6.867		12.005		15.099		CONT.	CONT.	N/A	
Remarks: Total Cost and Target Value of Northrop Grumman contract represents contract Latest Revised Estimate based on completed negotiations and CBASS hardware technical requirements. Various - TBD; Primary hardware development activity to be selected after evaluation of technologies from various vendors.															
Development Support Equipment															
Software Development	WR	NUWC NPT	CONT.	4.354	10/03	3.478	10/04	2.970	10/05	3.732	10/06	CONT.	CONT.	N/A	
Software Development	Various	Various	0.000	0.490	12/03	1.300	12/04	2.500	12/05	2.500	12/06	CONT.	CONT.	N/A	
Training Development															
Integrated Logistics Support															
Configuration Management															
Technical Data															
GFE															
Subtotal Support			CONT.	4.844		4.778		5.470		6.232		CONT.	CONT.	N/A	
Remarks:															

R-1 SHOPPING LIST - Item No. 175

Exhibit R-3, Project Cost Analysis
 (Exhibit R-3, page 6 of 9)
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Exhibit R-3 Cost Analysis (page 2)										DATE:					February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER													
RDT&E, N/BA-7			MK48 ADCAP/0205632N			MK48 ADCAP/0366													
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract					
Test & Evaluation	WR	NUWC NPT	CONT.	2.760	10/03	4.545	10/04	1.290	10/05	1.299	10/06	CONT.	CONT.	N/A					
Operational Test & Evaluation	WR	OPTEVFOR	CONT.	0.525	11/03	1.624	11/04	0.500	11/05	0.500	11/06	CONT.	CONT.	N/A					
Modeling & Simulation	WR	NUWC NPT	CONT.	1.925	10/03	2.712	10/04	0.925	10/05	1.244	10/06	CONT.	CONT.	N/A					
Modeling & Simulation	C,CPFF	ARL / PSU	0.000	0.767	12/03	0.040	12/04	0.650	12/05	0.650	12/06	CONT.	CONT.	N/A					
Subtotal T&E			CONT.	5.977		8.921		3.365		3.693		CONT.	CONT.						
Remarks:																			
Contractor Engineering Support																			
Government Engineering Support																			
Program Management Support	Various	Anteon	CONT.	0.475	MISC.	0.451	MISC.	0.429	MISC.	0.408	MISC.	CONT.	CONT.	N/A					
Travel			CONT.	0.052		0.045		0.045		0.045		CONT.	CONT.	N/A					
Overhead			CONT.	0.280		0.305		0.305		0.284		CONT.	CONT.	N/A					
Subtotal Management			CONT.	0.807		0.801		0.779		0.737		CONT.	CONT.						
Remarks:																			
Total Cost			CONT.	17.828		21.367		21.619		25.761		CONT.	CONT.						
Remarks:																			

R-1 SHOPPING LIST - Item No. 175

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 9)

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EXHIBIT R-4, Schedule Profile					DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7					MK48 ADCAP/0205632N			
PROGRAM EFFORTS								
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
	ADCAP Performance Upgrades based on Fleet Priorities (DT/OT testing scheduled prior to each software delivery)							
Torpedo Advanced Processor Builds	▲	△		△	△		△	→
	Engineering Tests in Support of CBASS Algorithm and Software Development							
CBASS Development		▽△	△▽					
			△△					
			△△					
			FRP					
	Advanced Tech Tech Develop. Contract Awards							
Torpedo Technology Insertion	▲				△	DT/OT	▽△	△
						Tech Insertion Package #1		DT/OT
								△▽
				△	△		△△△	→
			SDR	PDR	DRR		SDR PDRDRR	
								Tech Insertion Package #2

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R-1 SHOPPING LIST - Item No. 175

Exhibit R-4a, RDT&E Budget Item Justification
(Exhibit R-4a, page 9 of 9)

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0205633N Aviation Improvements			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	67.410	78.164	81.546	70.276	70.713	72.117	72.395	74.105
0601 Common Ground Equipment	3.814	2.626	3.007	2.812	3.171	3.238	3.313	3.390
0852 Consolidated Automated Support System	5.268	5.406	6.776	6.356	7.182	7.364	7.553	7.744
1041 A/C Equip Reliability Maintainability Improv Pgm	1.861	2.057	2.953	3.013	2.295	2.771	2.804	2.858
1355 A/C Engine Comp Imp Prog	47.523	51.962	68.810	58.095	58.065	58.744	58.725	60.113
9109 Aircraft Exploration Model Development	3.611	2.938						
9426 Automated Wire Analysis	2.900	4.259						
9427 Digital Integrated Cockpit Display	0.988	0.989						
9428 NAVAIR Technology Commercialization	1.445							
9628 Corrosion Inhibiting Coatings		1.388						
9629 Nano-Composite Hard Coat for Aviation Cano		2.279						
9630 Center for Defense Sustainment Technology		0.990						
9631 Devel.of Next Gen.Technology for the Inspection of A/C Engines, Diagnostics and Repair		3.270						
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft. Project 0852 - Consolidated Automated Support System (CASS) is a standardized Automated Test Equipment (ATE) with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles. Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost. Project 1355 - Aircraft Engine Component Improvement Program (CIP) develops reliability and maintainability (R&M) and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants. Project 9109 - Aircraft Age Exploration Model for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliability, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiated in FY02 to add enhanced functionality to include automatic identification of reliability degradation items and automatic tracking of actuals against model generated predictions. Project 9426 - Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and reactive in nature. New commercial technology that incorporates Standing Wave Reflectometry (SWR) can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches. This capability does not exist in the U.S. Navy today. A single wiring analyzer can serially test up to 1,152 wires at a time and the system can be expanded to test up to a maximum of 128,000 test points. This effort is to develop, validate and qualify this capability for Naval Aviation applications.								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 73)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE 0205633N Aviation Improvements	
<p>Project 9427 - The TH-57 Helicopter is the Navy's only primary helicopter pilot training platform, and is expected to remain in that capacity until 2025. All Navy fleet helicopters will have digital cockpits by 2012. To remain viable as an effective training platform, which meets the training requirements of an all digital helicopter fleet, the TH-57 cockpit can best utilize a digital design to effect greater aircraft training utilization. Research and Development funds will be utilized to produce a product that keeps pace with the rapidly changing fleet helicopter pilot training requirements and provides increased hard landing/crash and exceedence warning system protection to aircrews. The following areas will be explored Requirement Analysis, Cost Estimation, Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration.</p> <p>Project 9428 - The NAVAIR Technology Commercialization Initiative is an effort to transition commercial technology for Naval Aviation Applications.</p> <p>Project 9628 - The Corrosion Inhibiting Coatings initiative is an effort to develop and test a conductive polymer coating for increased corrosion resistance.</p> <p>Project 9629 - The Nano-Composite Hard-Coat for Aircraft Canopies initiative is an effort to develop and test improved canopy coating materials.</p> <p>Project 9630 - The Center for Defense Sustainment Technology initiative is an effort to support the Joint Council on Aging Aircraft (JCAA) National Strategy efforts in the Cost of Aging, obsolescence management and rotorcraft dynamic component technologies.</p> <p>Project 9631 - Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair will lead to the development of a next generation Common Video Borescope Set to support the fleet maintenance requirement to inspect internal components of aircraft engines and airframes for defects. The goals of this effort are to address deficiencies in the current inspection equipment by improving survivability, reducing proliferation/inventory, reducing maintenance costs, improving training and reliability, providing an upgradeable design, and maximizing commonality of inspection between the Organizational and Intermediate levels of maintenance.</p>		

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 2 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 0601 Common Ground Equipment			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.814	2.626	3.007	2.812	3.171	3.238	3.313	3.390
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget is briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

The items procured with this budget are new technology items that are required to meet fleet aircraft requirements in both testing and loading of aircraft systems.

R-1 SHOPPING LIST - Item N 182

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 3 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 0601 Common Ground Equipment																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>2.898</td> <td>2.546</td> <td>1.807</td> <td>1.400</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.898	2.546	1.807	1.400	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.898	2.546	1.807	1.400															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Next Generation Munitions Handler (NGMH) - R&D program to develop robotic weapons loader for both ship and shore with primary focus on targeting future weapons and aircraft. Plan is to support CVNX initiatives and to back-fit current CVs and amphibious ships. Utilize technology features developed under NGMH program.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.550</td> <td></td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.550				RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.550																		
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Shaft Engine Test Instrumentation (SETI) - Program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turbo shaft engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of SETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based (A/E372T-24) and (A/F37T-16) engine test systems. This enhanced capability will allow for full performance engine testing of the T58, T64, and T700 Turbo shaft engines. An ECP will be developed to upgrade the existing engine test systems.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td>0.080</td> <td>1.200</td> <td>1.412</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.080	1.200	1.412	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.080	1.200	1.412															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Turboprop Engine Test Instrumentation (TETI) - The Turboprop Engine Test Instrumentation (TETI) program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turboprop engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of TETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based engine test systems. This enhanced capability will allow for full performance engine testing of the T56 Series Turboprop engines. An ECP will be developed to upgrade the existing engine test systems.</p> </div>																			

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 4 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 0601 Common Ground Equipment																	
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.366																		
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 0601 Common Ground Equipment

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	3.131	2.664	2.983	3.024
Current BES/President's Budget	3.814	2.626	3.007	2.812
Total Adjustments	0.683	-0.038	0.024	-0.212
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.037		
Congressional rescissions				
SBIR/STTR Transfer	-0.069			
Other Adjustments		-0.001	-0.004	-0.259
Economic Assumptions			0.028	0.047
Reprogrammings	0.752			
Congressional increases				
Subtotal	0.683	-0.038	0.024	-0.212

Schedule:

Acquisition, testing and production milestones added for TETI program.

Due to the anticipated complexity of the NMGH, and the potential for the production contract award going to a different contractor than the original developer (Foster Miller Corporation), additional time was incorporated into the schedule to require the production contractor to build and successfully performance test several LRIP units before Full Rate Production (FRP) is initiated. This additional schedule time lowers risk to the program and postpones the FRP by one year.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 0601 Common Ground Equipment			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN 070500 Ground Support Equipment Related RDT&E: Not Applicable	194.455	216.782	193.508	186.338	181.829	172.102	176.063	180.106	Continuing	Continuing

E. ACQUISITION STRATEGY:

This is a non-ACAT program. Field activities propose tentative RDT&E projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group (OAG) process selects projects to transition to procurement.

R-1 SHOPPING LIST - Item No. 182

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 0601 Common Ground Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	17.112	1.661	03/05	1.959	03/06	1.573	03/07	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	Various	0.466	0.400	03/05	0.563	03/06	0.654	03/07	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			17.578	2.061		2.522		2.227		Continuing	Continuing	
Remarks:												
Development Support	Various	Various	6.151	0.030	12/04	0.030	12/05	0.030	12/06	Continuing	Continuing	
Software Development											0.000	
Integrated Logistics Support	Various	Various	0.060	0.060	12/04	0.060	12/05	0.060	12/06	Continuing	Continuing	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various	0.030	0.030	12/04	0.030	12/05	0.030	12/06	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			6.241	0.120		0.120		0.120		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0205633N Aviation Improvements			0601 Common Ground Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT&E - SETI	Various	Various	1.084								1.084	
DT&E - NGMH	Various	Various	0.060	0.200	12/04	0.200	12/05	0.100	12/06	Continuing	Continuing	
DT&E - TETI	Various	Various		0.080	12/04			0.200	12/06	Continuing	Continuing	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			1.144	0.280		0.200		0.300		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	Various	Various	0.025	0.025	12/04	0.025	12/05	0.025	12/06	Continuing	Continuing	
Government Engineering Support	Various	Various	0.060	0.050	12/04	0.050	12/05	0.050	12/06	Continuing	Continuing	
Program Management Support	Various	Various	0.075	0.075	12/04	0.075	12/05	0.075	12/06	Continuing	Continuing	
Travel	Various	Various	0.015	0.015	12/04	0.015	12/05	0.015	12/06	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.175	0.165		0.165		0.165		Continuing	Continuing	
Remarks:												
Total Cost			25.138	2.626		3.007		2.812		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7										PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements										PROJECT NUMBER AND NAME 0601 Common Ground Equipment												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones TETI						MS A △					MS B △										MS C △											
Prototype Phase																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones TETI																																
Development Test																																
Operational Test																																
Production Milestones TETI																																
FRP FY 09																																

R-1 SHOPPING LIST - Item No. 182

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 10 of 73)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0205633N Aviation Improvements												0601 Common Ground Equipment											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones NGMH								MS B △									MS C △																		
Prototype Phase																																			
Radar System Development																																			
EDM Radar Delivery																																			
Software 1XXSW Delivery 2XXSW Delivery																																			
Test & Evaluation Milestones NGMH																																			
Development Test																																			
Operational Test																																			
Production Milestones NGMH																																			
FRP FY 10																																			
Deliveries NGMH																																			

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 11 of 73)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7	PROGRAM ELEMENT 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 0601 Common Ground Equipment			
Schedule Profile - TETI	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase			4Q	1Q-4Q				
Milestone A		2Q						
Milestone B			3Q					
Developmental Testing				1Q-4Q				
Milestone C (MS C)								
Operational Testing								
Technical Evaluation (TECHEVAL)								
Full Rate Production Start								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 12 of 73)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7	PROGRAM ELEMENT 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 0601 Common Ground Equipment			
Schedule Profile - NGMH	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase	1Q-4Q	1Q-2Q						
Milestone B		4Q						
Developmental Testing		3Q-4Q	1Q-4Q					
Milestone C (MS C)								
Operational Testing				1Q-4Q				
Start Low-Rate Initial Production I (LRIP I)								
Low-Rate Initial Production I Delivery (3)								
Full Rate Production Start								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 13 of 73)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System			
COST (\$ in Millions)	FY 2004	FY 2005*	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	5.268	5.406	6.776	6.356	7.182	7.364	7.553	7.744
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Consolidated Automated Support System (CASS) project designs and develops modular automated test equipment with computer-assisted, multi-function test capability, standardized hardware, and standard software elements. CASS responds to Fleet Commanders' expressed requirements to correct serious deficiencies in existing automatic test equipment. Program objectives are: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics systems.</p> <p>Technologies being developed include synthetic instruments, new ATFLIR electro-optics capability, multi-analog test capability to enable functional testing, and CASS station modernization elements.</p>								
<p>* \$1.2M was identified in prior years which could forward finance future year requirements and the corresponding adjustment was made in FY 2005.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 14 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.400	1.000	2.222	2.317															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">CASS Station Upgrades Provides technologies for upgrading CASS station test capability to test emerging weapon system requirements. Includes development of new test capability and extending existing test range accuracies in the time and frequency domain. Specifically to support low-frequency analog/digital, electro-optic, and RF emerging weapon systems.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.405</td><td style="text-align: center;">0.659</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.405	0.659			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.405	0.659																	
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">Electro-Optic Capability Develops a downsized electro-optic support system to enable RTCASS to provide support for Marine Air FLIR and LASER Targeting systems.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">3.463</td><td style="text-align: center;">3.747</td><td style="text-align: center;">4.554</td><td style="text-align: center;">4.039</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.463	3.747	4.554	4.039	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.463	3.747	4.554	4.039															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">CASS Modernization Development Develops and integrates the technologies that will comprise the Modernization Program for the early lots of CASS stations which will be modernized and updated to current testing technologies while maintaining full compatibility with the legacy test program sets. Technologies include: downsized and scalable packaging techniques, multi-lingal runtime capability, interoperability framework and architectures, diagnostics data handling, virtual/synthetic/next-generation instrument concepts and the Agile Rapid Global Combat Support (ARGCS) Advanced Concept Technology Demonstration (ACTD).</div>																			

R-1 SHOPPING LIST - Item No. 182

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	6.370	5.456	6.722	6.817
Current BES/President's Budget	5.268	5.406	6.776	6.356
Total Adjustments	-1.102	-0.050	0.054	-0.461
Summary of Adjustments				
Congressional program reductions		-0.049		
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer	-0.107			
Other Adjustments		-0.001	-0.008	-0.586
Economic Assumptions			0.062	0.125
Reprogrammings	-0.995			
Congressional increases				
Subtotal	-1.102	-0.050	0.054	-0.461

Schedule:

Milestones added for FY04 4th Quarter award of ARGCS, to be followed by System Development and Testing.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN 070500 CASS	91.440	76.278	81.066	83.835	86.502	88.335	90.377	92.465	Continuing	Continuing
Related RDT&E: Not Applicable										

E. ACQUISITION STRATEGY:

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

The ARGCS development contract has been awarded to Northrup Grummon. The contractor will design, develop and test the ARGCS solution. The contractor will provide program management, engineering, testing and other services to meet the objectives of the contract per the ARGCS Implementation Document. ARGCS includes the latest in Integrated Support Systems technology in order to establish a common, interoperable, and morphable system. ARGCS provides a rapidly reconfigurable Combat Support System (CSS) required to perform needed maintenance/test.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-7			0205633N Aviation Improvements			0852 Consolidated Automated Support System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development - SI	Various	Various	9.423								9.423	
Hardware Development - Upgrades	Various	Various	23.111	0.750	Various	1.624	Various	1.649	Various	Continuing	Continuing	
Hardware Development - EO	C/FFP	Various	2.400	0.600	Various						3.000	
Hardware Development - Modernizat	C/FFP	Various	2.070	2.797	Various	3.302	Various	2.836	Various	Continuing	Continuing	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			37.004	4.147		4.926		4.485		Continuing	Continuing	
Remarks:												
Development Support - SI											0.000	
Development Support - Upgrades	Various	Various	0.250	0.250	Various	0.450	Various	0.469	Various	Continuing	Continuing	
Development Support - EO	C/FFP	Various	0.500	0.059	Various						0.559	
Development Support - Modernization	C/CPFF	Various	0.400	0.600	Various	1.050	Various	1.052	Various	Continuing	Continuing	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.150	0.909		1.500		1.521		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel	WX	NAWCAD, Patuxent River	0.974	0.350	Various	0.350	Various	0.350	Various	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.974	0.350		0.350		0.350		Continuing	Continuing	
Remarks:												
Total Cost			39.128	5.406		6.776		6.356		Continuing	Continuing	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0205633N Aviation Improvements												0852 Consolidated Automated Support System											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones ARGCS																																			
Contract Award				▲																															
System Development																																			
Testing																																			

R-1 SHOPPING LIST - Item No. 182

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7	PROGRAM ELEMENT 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System			
Schedule Profile - ARGCS	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Contract Award	4Q							
System Development		1Q-4Q	1Q-4Q	1Q				
Testing				1Q-4Q				

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RD&BA Project Justification
(Exhibit R-2a, page 21 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)			
COST (\$ in Millions)	2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.861	2.057	2.953	3.013	2.295	2.771	2.804	2.858
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AERMIP is the only Navy program which provides Research, Development, Test & Evaluation (RDT&E) engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through Reliability and Maintainability (R&M) and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost (TOC) reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high priority flight testing which is not associated with any acquisition or development program under the Flight Test General (FTG) task.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 22 of 73)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.300</td> <td>0.000</td> <td>0.251</td> <td>0.580</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.300	0.000	0.251	0.580	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.300	0.000	0.251	0.580															
RDT&E Articles Quantity																			
<p><u>Arc Fault Circuit Breaker</u></p> <p>The previous tests installed six arc fault circuit breakers (AFCB) at Naval Air Station (NAS) Patuxent River for shock, vibration, electrical, electromagnetic interference (EMI), temperature and altitude. However, no system level tests for AFCB were performed. This effort ending FY04 is to install approximately 80 - 115 volt, 400 Hz single phase AFCB on a C-9 Cargo/Transport aircraft to prevent arcing faults from starting fires. The test would show that on a commercial jet aircraft that the AFBC would work through system level Electro Magnetic Compatability (EMC) and lighting events. The effort starting in FY06 is to perform the same system level testing for the miniture version designed for fighter and attack aircraft and also helicopters.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.150</td> <td>0.403</td> <td>0.193</td> <td>0.181</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.150	0.403	0.193	0.181	RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.150	0.403	0.193	0.181															
RDT&E Articles Quantity																			
<p><u>Investigate High Value Return on Investment Candidates</u></p> <p>Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticiapted problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.300</td> <td>0.335</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.300	0.335	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.300	0.335	0.000	0.000															
RDT&E Articles Quantity																			
<p><u>Corrosion Barriers Tapes and Films</u></p> <p>Over the last decade a number of barrier protection products (Applique', Av DEC, Gore gaskets, etc...) have been developed claiming significant improvement in corrosion protection while also promising reduced maintenance burden to maintain. Individual products have been investigated but no efforts have been made to comparatively test the family of products to determine the best products and practices. This effort will result in quantifiable assessment of the current state of the art and the required validation for the best of breed to be implemented into the fleet as the best practice. Effort follows and compliments recently completed effort on corrosion preventative compounds and continues the efforts for a complete corrosion protection plan.</p>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 23 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)																	
B. Accomplishments/Planned Program (Cont.)																			
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	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.346	0.346	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Smart Wire Effort will validate and transition Office of Naval Research (ONR) funded technology development by conducting full aircraft flight test and developing plans and procedures for fleet wide implementation. Embed diagnostics into the aircraft wiring system to manage the health of the wiring. Diagnostic technologies being evaluated include reflectometry, partial discharge analysis, fiber optic sensors, and acoustic sensors. The implementation of smart wiring reduces the time required to isolate faulty wires, minimizes erroneous equipment removals, allows for proactive replacement of aged wiring systems prior to catastrophic failure, and provides a substantial increase in safety by eliminating wiring fires. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.359</td> <td>0.460</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.359	0.460	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.359	0.460	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> ASQ-208 Current ASW Magnetic Abnormality Detector (MAD) system is of an antiquated design with poor reliability. A replacement is needed to reduce maintenance cost and increase system readiness. Project will flight test and qualify a digital magnetic abnormality detector (MAD) to replace the current poor performing MAD. New equipment will reduce the number of sub-assemblies from 13 to 4 and reduce the space, weight and power consumption required by the old unit. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.320</td> <td>0.513</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.320	0.513	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.320	0.513	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> APN-202 Improvement Program The current system is an antiquated design with poor reliability. This effort is to test and perform the required changes to validate a replacement APN-202 system. </div>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 24 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)																	
B. Accomplishments/Planned Program (Cont.)																			
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	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.076	0.182															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Thermal Barrier Coating Improvement</u> Thermal spiking causes material degradation leading to frequent repair and part replacement. Solution: An existing thermal barrier coating has been shown to reduce the surface temperature of a part by several hundred degrees in a thermal spike environment. Benefits: Preventing thermal spiking protects the part and prevents damage, reducing repair and replacement.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.096</td><td style="text-align: center;">0.133</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.096	0.133	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.096	0.133															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Improved Firewall Materials</u> On-board Fire/Thermal Barriers Use Outdated Insulation Materials. Material science continues to produce incredibly light and effective insulation that could replace the older, less effective materials. Qualifying newer commercially available barrier materials are essential to effective fire detection and suppression as well as reduction in fleet maintenance and inspection when using more rugged material.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.201</td><td style="text-align: center;">0.182</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.201	0.182	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.201	0.182															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Advanced Non-Chrome Primers</u> NC Primers (water-borne and high solids) are not available with performance better than chromated primers. However, environmental complicity is forcing the reduction of usage of chromates. The qualification and implementation of advanced non-chrome primers with adequate corrosion protection properties will reduce primer application and removal cost and facility liabilities due to the use of chromated primers.</div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)																	
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	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.151	0.202															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p><u>Advanced Performance Topcoat</u> Aircraft coating systems last 3-4 years under the best conditions while depot maintenance cycles are 8 years on average. The Office of Naval Research is developing a topcoat with enhanced durability so that it can last 8 years between repainting. The effort is to perform field testing and validation of the coating for approval for all Naval Aviation.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.432</td> <td>0.000</td> <td>0.399</td> <td>0.433</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.432	0.000	0.399	0.433	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.432	0.000	0.399	0.433															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p><u>AN/ASH-37(V) Structural Data Recording Set (SDRS)</u> The SDRS download process requires the memory unit to be removed from the aircraft often resulting in handling damage. This project will verify and validate a replacement Advanced Data Collection System that remotely downloads memory unit information. The replacement system will provide higher reliability, lower recurring costs and additional data download content.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.233</td> <td>0.142</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.233	0.142	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.233	0.142															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p><u>Imbedded Fire Bottle Condition Sensor</u> Fire Bottles rarely fail hydrostatic inspections, yet the testing requirement remains due to safety reasons and absorbs resources that could be better used elsewhere. Project is to apply the latest sensor technology to develop an "after market" add-on bottle monitoring device that affords immediate visible indication of bottle condition (go / no go). Bottle integrity is assured without conducting intrusive testing. This would completely eliminate the huge maintenance burden driven by current requirements for periodic hydro testing and the entire logistics stream for shipping of bottles worldwide to/from authorized depots. Significantly reduces aircraft down-time for bottle replacement and eliminates emissions of halon (an ozone depleter) during maintenance and testing.</p> </div>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 26 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)

B. Accomplishments/Planned Program (Cont.)

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.251	0.232
RDT&E Articles Quantity				

Processor Maintainability Program

Aging Navy equipment is often plagued with component obsolescence, specifically with critical microprocessors. Maintaining repair capability and spare availability is difficult due to obsolescence. This program will identify obsolescence issues and provide solution sets for selected candidate equipment. Specifically, this program will define common processors and implement a technology insertion program which utilizes an open architecture design with COTS processors. The AYK-14 Mission Computer is the first candidate system targeted.

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.253	0.182
RDT&E Articles Quantity				

EMI Sealants and Coatings

Current EMI sealants and coatings yield inferior corrosion protection due to the need for maintaining electrical continuity and EMI performance in corrosion prone areas (strong galvanic couples). Maximum corrosion protection can be obtained by insulating galvanic couples. The incorporation of improved corrosion protection schemes while maintaining electrical and EMI performance will dramatically extend seal and surface life, reduce EMI degradation, and reduce corrosion maintenance cost.

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.201	0.232
RDT&E Articles Quantity				

Improved Corrosion Preventative Compounds

Corrosion preventative compounds (CPC) employed in Naval Aviation have a protective life of roughly 40 days requiring reapplication every 28 day maintenance cycle. The Office of Naval Research is developing a long-life CPC that can be effectively employed on a 308 day maintenance cycle. The effort is to field test and qualify for usage this CPC for all Naval Aviation usage.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 27 of 73)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)		
B. Accomplishments/Planned Program (Cont.)				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.302	0.332
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;">ASW-25 replacement The current system is an antiquated design with poor reliability. This effort is to test and perform the required changes to validate the ASW-27 as a replacement to the ASW-25 for those aircraft which are still flying with this system.</div>				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 28 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)		

C. PROGRAM CHANGE SUMMARY:

	FY04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget	1.431	2.079	3.008	3.107
Current BES/President's Budget	1.861	2.057	2.953	3.013
Total Adjustments	0.430	-0.022	-0.055	-0.094
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.021		
Congressional rescissions				
SBIR/STTR Transfer	-0.002			
Other Adjustments		-0.001	-0.114	-0.134
Economic Assumptions			0.059	0.040
Reprogrammings	0.432			
Congressional increases				
Subtotal	0.430	-0.022	-0.055	-0.094

Schedule:

Schedule change adds FY06-FY09 on miniaturized Arc Fault Circuit Breaker for fighter aircraft and helicopters.

Initial investigation efforts on AN/ASH-37(V) Structural Data Recording Set (SDRS) included under High Value Return on Investment Candidates as lead into FY06 starts.

Initial investigation efforts on Processor Maintainability Program included under High Value Return on Investment Candidates as lead into FY06 starts. Effort extended through FY11 due to noticed increase in Processor issues.

FY06 New Start efforts of Thermal Barrier Coating Improvement, Improved Firewall Materials, Advanced Non-Chrome Primers, Advanced Performance Topcoat, An/ASH-37(V) Structural data Recording Set (SDRS), Imbedded Fire Bottle Condition Sensor, Processor Maintainability Program, EMI Sealants and Coatings, Improved Corrosion Prevetative Compounds, and ASW-25 Replacement added to schedule profile

Technical:

Not applicable

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 29 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Related RDT&E: 0205633N, Aircraft Exploration Model Development, 9109 0205633N, Automated Wire Analysis, 9426 0205633N, NAVAIR Technology Commercialization, 9428 0205633N, Corrosion Inhibiting Coatings, 9628 0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629										
E. ACQUISITION STRATEGY: Not applicable										

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	ss/cpff	Raytheon, Indianapolis, IN	0.900	0.090	11/04	0.150	12/05	0.150	12/06	1.290	2.580	2.580
Contractor Engineering Support											0.000	
Program Management Support	WX	NAWCAD Patuxent River, MD	0.120	0.120	10/04	0.180	11/05	0.180	11/06	Continuing	Continuing	
Travel	WX	NAWCAD Patuxent River, MD	0.020	0.010	10/04	0.010	11/05	0.010	11/06	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			1.040	0.220		0.340		0.340		Continuing	Continuing	
Remarks:												
Total Cost			11.794	2.057		2.953		3.013		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 32 of 73)

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Exhibit R-2a, RD TEN Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	47.523	51.962	68.810	58.095	58.065	58.744	58.725	60.113
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness (OR) and Reliability and Maintainability (R&M), and reduces platform Life Cycle Cost (LCC). Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term plans. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion system as an integral part of Reliability Centered Maintenance (RCM) initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during DESERT SHIELD/DESERT STORM operations due to sand erosion. In addition, new problems arise through actual use during deployment of the aircraft. Development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those the aircraft was designed to perform. Therefore, it has been found that CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, and fuel and lubricant systems. CIP efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 35 of 73)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program																																															
B. Accomplishments/Planned Program Platform-Specific Efforts: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>2.228</td> <td>9.095</td> <td>9.731</td> <td>8.462</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> T56 Engine (P-3, E-2, C-2, C-130) Implement the Engine Monitory System version 7.0 upgrade. Maintain safety margins by investigating turbine coatings and develop new designs, propeller integration efforts with potential propeller designs, perform engine hot section corrosion and fatigue analysis, and bearing improvements. Analysis of redesign for first stage turbine blades on T56-A-427 engines. Qualification and verification testing of redesigned first stage turbine blades. Resolve service revealed problem. Work on resolving fuel nozzle choking issue. Resolve design problems in the areas of safety coupling, compressor leakage, generator problems, and electrical wiring problems. Mission updates and life analysis of critical components. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.743</td> <td>0.440</td> <td>0.452</td> <td>0.441</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> E-2/C-2/C-130 Incorporate improved blade heaters. Develop improved propeller control system. </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>1.152</td> <td>0.879</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> S-3 High Pressure Compressor (HPC) life limit implementation. Validation and implementation of High Pressure Turbine (HPT), Low Pressure Turbine (LPT), and Fan critical part life limit changes. Develop Combustion Chamber Frame (CCF) and HPT physics based thermal models. Develop LPT physics based thermal models. Collect engine parameter flight data required to perform updated engine mission analysis. Initiate the development of improved Eddy Current (EC) inspection techniques for small holes and specific features. Analyze and correlate HPC EC inspection requirements to critical part Fracture Mechanics (FM) capabilities. Investigate propulsion and power system obsolescence. Conduct engine component and propulsion and power electrical system reliability/maintainability analysis. Conduct commercial critical part hardware commonality analysis. </div>						FY 04	FY 05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost	2.228	9.095	9.731	8.462	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.743	0.440	0.452	0.441	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.152	0.879	0.000	0.000	RDT&E Articles Quantity				
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Exhibit R-2a, RDTEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program																																															
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program		

B. Accomplishments/Planned Program

Platform-Specific Efforts:

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.511	9.799	14.507	9.068
RDT&E Articles Quantity		.		

H-53/H-46/H-3
 Bleed valve redesign. Efforts on the top cause for engine removals; improve on wing times; addressed top safety concerns as ranked by the Operational Advisory Group (OAG); reliability-centered maintenance program; improve compressor blade retention design; and develop corrosion resistant bearing designs. Improve the mean time between engine removal based upon continued implementation of reliability center maintenance initiatives. Conduct life management analysis to resolve critical rotating component issues based upon engine structural integrity assessments and the master life management plan.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.411	2.346	2.411	2.353
RDT&E Articles Quantity				

H-1
 Address top safety concerns as ranked by the OAG and System Safety Working Group, continue to update Navy maintenance manuals, continue to improve time-between-overhaul and reduced impact of high-time parts (T700 and T400); addressed Blisk, Rear Shaft, Spacer & Tierod Life Update (T700), development of environmentally friendly repairs such as High Velocity OXY fuel coatings to replace chrome and nickel plate repairs; and development of Durability Project (T700-401/-401C), N5 Blades w/ tip cap & Nozzles, T700 TiN Coating (Test Articles, Corrosion/Erosion/Full Sand Engine Testing), T700 Diagnostics Life Mgt Performance Evaluation (IMD), T700 Diagnostics (Performance Evaluation), Durability Project (T700-401/-401C), T700 TiN Coating (Pending Pass/Fail... Incorp TiN), EPAMs Mission Update to 4BN, T700 Diagnostics (Performance Evaluation), T400 Improved Compressor Turbine Stub Shaft, T400 Improved Gas Generator Case Diffuser Inlet, T400 Improved Compressor Coating, T400 Life Management, Study T400 Parts Obsolescence.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.631	0.124	0.000	0.000
RDT&E Articles Quantity				

F-14B/D
 Address obsolescence of electrical components. High pressure turbine redesign efforts. Address extension of component life and the reduction of maintenance hours. Improvements to propulsion system safety through an active life management program for critical rotating components. Efforts to reduce the engine non-recoverable in-flight shutdown Rate and propulsion system related mission abort rate.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program																																															
B. Accomplishments/Planned Program Platform-Specific Efforts: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td style="text-align: center;">0.100</td><td style="text-align: center;">0.100</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">F-16 Review safety ECP's and support incorporation safety requirements.</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">14.998</td><td style="text-align: center;">6.494</td><td style="text-align: center;">9.075</td><td style="text-align: center;">8.519</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">Multi-Platform Product Support Teams Projects designed to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; improve blade and vane repair processes and life cycle support; and improve electrical system product support, wiring, and battery systems.</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost			0.100	0.100	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	14.998	6.494	9.075	8.519	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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R-1 SHOPPING LIST - Item No. 182

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget	48.473	52.436	56.134	54.357
Current BES/President's Budget	47.523	51.962	68.810	58.095
Total Adjustments	-0.950	-0.474	12.676	3.738
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.463		
Congressional rescissions				
SBIR/STTR Transfer	-0.706			
Other Adjustments		-0.011	11.922	2.633
Economic Assumptions	-0.050		0.754	1.105
Reprogrammings	-0.194			
Congressional increases				
Subtotal	-0.950	-0.474	12.676	3.738

Schedule: Not applicable

Technical: Not Applicable

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 41 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 1355 Aircraft Engine Component Improvement Program
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>PE 0203752A (Aircraft Engine CIP Army) PE 0207268F (Aircraft Engine CIP Air Force) PE 0602236N (Turbine Engine Improvement, TOC FNC) PE 0603236N (Turbine Engine Improvement, TOC, FNC) PE 0602114N (UAV Propulsion Autonomous Operations FNC) PE 0603114N (UAV Propulsion Autonomous Operations FNC)</p> <p>E. ACQUISITION STRATEGY:</p> <p>Not applicable</p>		

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Exhibit R-3 Cost Analysis (page 1)							Date: February 2005					
RDT&E, N /		BA-7		0205633N Aviation Improvements			1355 Aircraft Engine Component Improvement Program					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Eng F110 Engine Program*	SS/CPAF	GE- OHIO	17.868	0.124	12/04						17.992	17.992
Systems Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE - UK	33.094	3.728	12/04	3.988	12/05	3.892	12/06		44.702	44.702
Systems Eng T58/T64 Engine Program	SS/CPFF	GE - MASS	37.342	9.799	10/04	14.507	10/05	9.068	10/06		70.716	70.716
Systems Eng J52 Engine Program	SS/CPFF	P&W - FLORIDA	15.046	5.849	12/04	6.258	12/05	6.919	12/06		34.072	34.072
Systems Eng T56 Engine Program	SS/CPFF	INDIANA	11.838	9.095	02/05	9.731	02/06	8.462	02/07		39.126	39.126
Systems Eng F405 Engine Program	SS/CPAF	ROLLS ROYCE - UK	11.260	1.220	12/04	4.003	12/05	2.877	12/06		19.360	19.360
Systems Eng F414/F404 Engine Program	SS/CPFF	GE - MASS	11.628	9.083	12/04	15.100	12/05	12.350	12/06		48.161	48.161
Systems Eng T700 Engine Program	SS/CPFF	GE - MASS	8.115	4.192	01/05	4.308	01/06	4.205	01/07		20.820	20.820
Systems Eng TF34 Engine Program	SS/CPFF	GE - MASS	7.565	0.879	11/04						8.444	8.444
Systems Eng T406 Engine Program	WX	NAWCAD-PAX	1.000			0.200	12/05	0.200	12/06	Continuing	Continuing	
Systems Eng T400 Engine Program	SS/CPFF	P&W - FLORIDA	2.167	0.250	12/04	0.257	12/05	0.251	12/06		2.925	2.925
Systems Eng J85 Engine Program	SS/CPFF	GE - OK	1.045	0.809	11/04	0.831	11/05	0.811	11/06		3.496	3.496
Systems Eng F100 Engine Program	WX	NAWCAD-PAX				0.100	10/05	0.100	10/06	Continuing	Continuing	
Systems Eng Props Program	SS/CPFF	HAM SUNSTRAND - CONI	7.420	0.440	12/04	0.452	12/05	0.441	12/06		8.753	8.753
Systems Eng Contracts under 1.0M	VARIOUS	VARIOUS	15.782	1.036	10/04	1.064	10/05	1.038	10/06	Continuing	Continuing	
Systems Eng Lab Field Activity (1.0M or more)	WX	NAWCAD-PAX	133.474	4.195	10/04	6.552	10/05	6.253	10/06	Continuing	Continuing	
Systems Eng Other In-House Support (1.0M or less)	VARIOUS	VARIOUS	17.300	0.310	10/04	0.319	10/05	0.311	10/06	Continuing	Continuing	
GFE-GFP Fuel Increment	MILSTRIP	DES/DLA	4.706	0.487	10/04	0.663	10/05	0.451	10/06	Continuing	Continuing	
Award Fees	SS/CPAF		1.305								1.305	1.305
Subtotal Product Development			337.955	51.496		68.333		57.629		Continuing	Continuing	
Remarks:												
* F110 (F14 B/D) AF contract has a ten year period of performance.												

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Exhibit R-2a, RD&E Project Justification
(Exhibit R-2a, page 43 of 73)

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Exhibit R-3, RD TEN Project Justification
(Exhibit R-3, page 44 of 73)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements			PROJECT NUMBER AND NAME W1355 Aircraft Engine Component Improvement Program						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VARIOUS	VARIOUS	2.907	0.053	10/04	0.054	10/05	0.053	10/06	Continuing	Continuing	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			2.907	0.053		0.054		0.053		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	VARIOUS	VARIOUS	1.188	0.053	10/04	0.054	10/05	0.053	10/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River	0.093	0.050	10/04	0.051	10/05	0.050	10/06	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			1.281	0.103		0.105		0.103		Continuing	Continuing	
Remarks:												
Total Cost			347.626	51.962		68.810		58.095		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements				PROJECT NUMBER AND NAME 9109 Aircraft Exploration Model Development			
COST (\$ in Millions)	2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.611	2.938						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircraft Age Exploration Model Development is for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliability, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiated in FY02 to add enhanced functionality to include automatic identification of reliability degradation items and automatic tracking of actuals against model generated predictions.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 46 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9109 Aircraft Exploration Model Development																	
B. Accomplishments/Planned Program																			
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	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.211	2.138	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Software Development</u> Develop enhancements to computer model that integrates existing maintenance data with predictive computations to determine future reliability and maintainability conditions for aircraft and components. Enhancements include automated generation of reliability and maintainability opportunity triggers and also real time tracking of actual results against predicted performance.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.150</td><td style="text-align: center;">0.300</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.150	0.300	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.150	0.300	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Technical data and training materials</u> Develop technical data to include user manuals and other training materials. Conduct user training sessions as required for model validation.</div>																			
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	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.250	0.500	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Conduct model validation studies</u> Using a combination of historical and current maintenance data perform model verification and validation studies to demonstrate acceptable level of confidence in outputs produced by the model</div>																			

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Exhibit R-2a, RDTEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9109 Aircraft Exploration Model Development																																																																								
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY04</th> <th style="text-align: right; width: 15%;">FY 05</th> <th style="text-align: right; width: 15%;">FY 06</th> <th style="text-align: right; width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td style="text-align: right;">3.708</td> <td style="text-align: right;">0.000</td> <td></td> <td></td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">3.611</td> <td style="text-align: right;">2.938</td> <td></td> <td></td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.097</td> <td style="text-align: right; border-top: 1px solid black;">2.938</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.061</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.094</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.003</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">3.000</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.097</td> <td style="text-align: right; border-top: 1px solid black;">2.938</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">Not applicable</p> <p>Technical:</p> <p style="margin-left: 40px;">Not applicable</p>					Funding:	FY04	FY 05	FY 06	FY 07	Previous President's Budget	3.708	0.000			Current BES/President's Budget	3.611	2.938			Total Adjustments	-0.097	2.938	0.000	0.000	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.061			Congressional rescissions					SBIR/STTR Transfer	-0.094				Other Adjustments		-0.001			Economic Assumptions	-0.003				Reprogrammings					Congressional increases		3.000			Subtotal	-0.097	2.938	0.000	0.000
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 9109 Aircraft Exploration Model Development					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Related RDT&E: 0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041 0205633N, Automated Wire Analysis, 9426 0205633N, NAVAIR Technology Commercialization, 9428 0205633N, Corrosion Inhibiting Coatings, 9628 0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629										
E. ACQUISITION STRATEGY: Not applicable										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements				PROJECT NUMBER AND NAME 9426 Automated Wire Analysis			
COST (\$ in Millions)	2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.900	4.259						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and reactive in nature. New commercial technology that incorporates Standing Wave Reflectometry (SWR) can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches. This capability does not exist in the U.S. Navy today. A single wiring analyzer can serially test up to 1,152 wires at a time and the system can be expanded to test up to a maximum of 128,000 test points. This effort is to develop, validate and qualify this capability for Naval Aviation applications.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 50 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9426 Automated Wire Analysis																	
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Accomplishments/Effort/Subtotal Cost	1.700	2.659	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Software development</u> Develop the software required to utilize the new technology that incorporates Standing Wave Reflectometry (SWR) that can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.900</td><td style="text-align: center;">1.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.900	1.000	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.900	1.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>In-Service validation testing</u> Testing to ensure that the product works in a true fleet environment. Aircraft to be studied are the EA-6B, C-2, S-3, E-6, H-46, and H-53.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.300</td><td style="text-align: center;">0.600</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.300	0.600	0.000	0.000	RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost	0.300	0.600	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><u>Tech data and training materials</u> User training and the development of the materials required for training and after training reference.</div>																			

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 51 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9426 Automated Wire Analysis		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY04	FY 05	FY 06	FY 07
Previous President's Budget	2.967	0.000		
Current BES/President's Budget	2.900	4.259		
Total Adjustments	-0.067	4.259	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.040		
Congressional rescissions				
SBIR/STTR Transfer	-0.064			
Other Adjustments		-0.001		
Economic Assumptions				
Reprogrammings	-0.003			
Congressional increases		4.300		
Subtotal	-0.067	4.259	0.000	0.000

Schedule:

Not applicable

Technical:

Not applicable

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 52 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 9426 Automated Wire Analysis																									
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td colspan="11" style="padding-top: 20px;"> <p>Related RDT&E:</p> <p>0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041</p> <p>0205633N, Age Exploration Model Development, 9109</p> <p>0205633N, NAVAIR Technology Commercialization, 9428</p> <p>0205633N, Corrosion Inhibiting Coatings, 9628</p> <p>0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629</p> </td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>Not applicable</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	<p>Related RDT&E:</p> <p>0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041</p> <p>0205633N, Age Exploration Model Development, 9109</p> <p>0205633N, NAVAIR Technology Commercialization, 9428</p> <p>0205633N, Corrosion Inhibiting Coatings, 9628</p> <p>0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629</p>										
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R-1 SHOPPING LIST - Item No. 182

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 9427 Digital Integrated Cockpit Display			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
,	0.988	0.989						
RDT&E Articles Qty	1	1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The TH-57 Helicopter is the Navy's only primary helicopter pilot training platform, and is expected to remain in that capacity until 2025. All Navy fleet helicopters will have digital cockpits by 2012. To remain viable as a effective training platform, which meets the training requirements of an all digital helicopter fleet, the TH-57 cockpit can best utilize a digital design to effect greater aircraft training utilization. Research and Development funds will be utilized to produce a product that keeps pace with the rapidly changing fleet helicopter pilot training requirements and provides increased hard landing/crash and exceedence warning system protection to aircrews. The following areas will be explored Requirement Analysis, Cost Estimation, Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
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B. Accomplishments/Planned Program																																																	
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R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 55 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0205633N Aviation Improvements	9427 Digital Integrated Cockpit Display		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY04	FY 05	FY 06	FY 07
Previous President's Budget	0.989	0.000		
Current BES/President's Budget	0.988	0.989		
Total Adjustments	-0.001	0.989	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.011		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments	-0.001			
Economic Assumptions				
Reprogrammings				
Congressional increases		1.000		
Subtotal	-0.001	0.989	0.000	0.000
Schedule:				
Not applicable				
Technical:				
Not applicable				

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 56 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 9427 Digital Integrated Cockpit Display					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Related RDT&E: 0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041 0205633N, Age Exploration Model Development, 9109 0205633N, NAVAIR Technology Commercialization, 9428 0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629										
E. ACQUISITION STRATEGY: Not applicable										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements				PROJECT NUMBER AND NAME 9628 Corrosion Inhibiting Coatings			
COST (\$ in Millions)	2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.388						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Corrosion Inhibiting Coatings initiative is an effort to develop and test a conductive polymer coating for increased corrosion resistance. This effort will optimize and scale up a coating system that will provide improved corrosion protection for Navy aircraft and be compatible with all environmental regulations.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9628 Corrosion Inhibiting Coatings																	
B. Accomplishments/Planned Program																			
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Accomplishments/Effort/Subtotal Cost	0.000	1.388	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">Development Test and Evaluation Develop a commercially available, environmentally and worker friendly primer capable of replacing primers containing hexavalent chromium for protection of aluminum alloys in aerospace applications.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No. 182

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0205633N, Aviation Improvements	9628 Corrosion Inhibiting Coatings		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY04	FY 05	FY 06	FY 07
Previous President's Budget		0.000		
Current BES/President's Budget		1.388		
Total Adjustments	0.000	1.388	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.012		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.400		
Subtotal	0.000	1.388	0.000	0.000
Schedule:				
Not applicable				
Technical:				
Not applicable				

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 60 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 9628 Corrosion Inhibiting Coatings																									
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R-1 SHOPPING LIST - Item No. 182

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements				PROJECT NUMBER AND NAME 9629 Nano-Composite Hard Coat for Aircraft Canopies			
COST (\$ in Millions)	2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		2.279						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Nano-Composite Hard-Coat for Aircraft Canopies initiative is an effort to develop and test improved canopy coating materials. This effort will optimize and scale up a coating system that will provide improved chemical and abrasion protection for aircraft canopies and windscreens.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 62 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 9629 Nano-Composite Hard Coat for Aircraft Canopies																	
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">Development Test and Evaluation Develop and transition an optically transparent coating for aircraft wind screens and canopies that is resistant to abrasion and chemical attack.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
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	FY04	FY05	FY 06	FY 07															
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RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No. 182

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0205633N, Aviation Improvements	9629 Nano-Composite Hard Coat for Aircraft Canopies		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY04	FY 05	FY 06	FY 07
Previous President's Budget		0.000		
Current BES/President's Budget		2.279		
Total Adjustments	0.000	2.279	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.020		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments		-0.001		
Economic Assumptions				
Reprogrammings				
Congressional increases		2.300		
Subtotal	0.000	2.279	0.000	0.000
Schedule:				
Not applicable				
Technical:				
Not applicable				

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RD TEN Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements			PROJECT NUMBER AND NAME 9629 Nano-Composite Hard Coat for Aircraft Canopies																									
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements			PROJECT NUMBER AND NAME 9630 Center for Defense Sustainment Technology			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.990						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will fund a Center for Defense Sustainment Technology that will conduct studies and analysis support for Aging Aircraft issues. It will also conduct aircraft obsolescence requirements analysis, focused research and development, and implementation and deployment of solutions and best practice identification and dissemination. The overall goal of these activities is to safely extend the service life of legacy aircraft that we currently cannot afford to replace, to intelligently invest in solutions that reduce the operating costs of these fleets, and to reduce redundancy of efforts in development and fielding of these solutions. This center is a public-private partnership including not for profit consortia, small business, Government activities, and academia.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 66 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 9630 Center for Defense Sustainment Technology																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.990																	
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">Center for Defense Sustainment Technology To support the establishment of Center for Defense Sustainment Technology, which will conduct studies and analysis support for Aging Aircraft issues. This center is a public-private partnership including not for profit consortia, small business, Government activities and academia. FY05 funding has specifically been targeted to support the Joint Council on Aging Aircraft (JCAA) National Strategy efforts in the Cost of Aging, obsolescence management and rotorcraft dynamic component technologies.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 67 of 73)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 9630 Center for Defense Sustainment Technology	

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY2007
Funding:				
Previous President's Budget:		0.000		
Current BES/President's Budget		0.990		
Total Adjustments		0.990		
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.010		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments				
Economic Assumptions				
Reprogrammings		1.000		
Congressional increases				
Subtotal	0.000	0.990	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 182

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 68 of 73)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements		PROJECT NUMBER AND NAME 9630 Center for Defense Sustainment Technology					
D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	To <u>Complete</u>	Total <u>Cost</u>
PE 0602201F (Aerospace Flight Dynamics)									
PE 0602233N (Mission Support Equipment)									
PE 0604264N (Aircrew Systems Development)									
PE 0604706F (Life Support Systems)									
PE 06023231F (Crew Systems and Personal Protection Technology)									
E. ACQUISITION STRATEGY:									
Not Applicable									

R-1 SHOPPING LIST - Item No. 1182

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	0205633N Aviation Improvements				9631 Devel.of Next Gen.Technology for the Inspection of A/C Engines, Diagnostics and Repair			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	3.270	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 9631 - Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair will lead to the development of a next generation Common Video Borescope Set to support the fleet maintenance requirement to inspect internal components of aircraft engines and airframes for defects. The goals of this effort are to address deficiencies in the current inspection equipment by improving survivability, reducing proliferation/inventory, reducing maintenance costs, improving training and reliability, providing an upgradeable design, and maximizing commonality of inspection between the Organizational and Intermediate levels of maintenance.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements	PROJECT NUMBER AND NAME 9631 Devel.of Next Gen.Technology for the Inspection of A/C Engines, Diagnostics and Repair		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		3.270	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair - Program objective is to develop next generation Common Video Borescope Set to enhance the visual inspection of internal components of Navy/Marine aircraft primary and secondary powerplants and airframes for defects by improving survivability, reducing inventory, reducing maintenance cost, improving training and reliability, and maximizing commonality of the inspection equipment. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px;"></div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
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R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDTE, N / BA-7	0205633N Aviation Improvements	9631 Devel.of Next Gen.Technology for the Inspection of A/C Engines, Diagnostics and Repair		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:		0.000		
Current BES/President's Budget		3.270		
Total Adjustments	0.000	3.270	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.029		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments		-0.001		
Economic Assumptions				
Reprogrammings				
Congressional increases		3.300		
Subtotal	0.000	3.270	0.000	0.000

Schedule:

Milestones added for Project 9631

Not Applicable

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-7		0205633N Aviation Improvements			9631 Devel.of Next Gen.Technology for the Inspection of A/C Engines, Diagnostics and Repair				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN 070500 Ground Support Equipment			0.49	4.8	5.75	5.75	4.4	3.96		25.15

E. ACQUISITION STRATEGY:

This is a non-ACAT program. NAVAIR Lakehurst initiated a solicitation for a Broad Agency Announcement (BAA) in Novemeber 2004 with proposals due by February 2005. Source selection panel will evaluate proposals and select awardee(s). Concept study due by 1 August 2005. Follow-on contract may be awarded for a prototype and/or production units. Operational Advisory Group (OAG) has prioritized procurements beginning in FY06.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total PE	12,009	7,151	3,917	3,405	3,521	3,696	3,798	3,904
R0834 LABORATORY FLEET SUPPORT	5,275	3,783	3,917	3,405	3,521	3,696	3,798	3,904
R9111 LASH MCM/ISR	6,734	3,368	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Science Advisor Program ensures that the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. In addition, Science Advisors facilitate and disseminate Command Capability Issues (CCIs) provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). The Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. The result is that the Science Advisors provide insight into issues associated with Naval Warfighting Capabilities, thereby influencing long term S&T programs. The program develops leaders among the civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Naval Science Advisor Program is unique in that it enables a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROGRAM CHANGE SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2005 President's Budget Submission	10,626	3,821	3,915	3,370
Cong Rescissions/Adjustments/Undist. Reductions	0	-68	0	0
Congressional Action	0	3,400	0	0
Execution Adjustments	1,572	0	0	0
Non-Pay Inflation Adjustments	-6	0	0	0
Program Adjustments	0	-2	-2	-2
Rate Adjustments	0	0	4	37
SBIR Assessment	-183	0	0	0
FY 2006/2007 President's Budget Submission	12,009	7,151	3,917	3,405

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: R0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
R0834 LABORATORY FLEET SUPPORT	5,275	3,783	3,917	3,405	3,521	3,696	3,798	3,904

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Science Advisory Program ensures that the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. In addition, Science Advisors facilitate and disseminate Command Capability Issues (CCIs) provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). The Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. The result is that the Science Advisors provide insight into issues associated with Naval Warfighting Capabilities, thereby influencing long term S&T programs. The program develops leaders among the civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Navy Science Advisory Program is unique in that it enables a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROJECT NUMBER: R0834

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT TITLE: LABORATORY FLEET SUPPORT

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2004	FY 2005	FY 2006	FY 2007
NAVAL SCIENCE ADVISOR PROGRAM	5,275	3,783	3,917	3,405

FY 2004 Accomplishments:

The Science Advisors are a conduit between the Fleet/Force, the Office of Naval Research (ONR) and the Naval Research Enterprise: Specific Fleet Accomplishments are:

- Science Advisor, Commander Seventh Fleet (COMSEVENTHFLT), actively supported the Undersea Dominance/Task Force Anti-Submarine Warfare (ASW) Demonstrations. Had ongoing discussions with the leadership of the Littoral ASW Future Naval Capability (FNC) and its prioritization of efforts. Continued ongoing efforts in Anti-Terrorism/Force Protection (AT/FP) technology.
- Science Advisor, Commander Fleet Forces Command (CFFC), established a strong CFFC presence in the Department of Defense, Deputy Assistant Secretary of the Navy (DASN) Research, Development, Test and Evaluation (RDT&E), Science and Technology (S&T) assessment process, including the ONR review and the development of the S&T Vision statement. Identified and maintained a close coupling between the OPNAV (N8) requirements organization and the Future Naval Capabilities (FNC) Integrated Process Teams (IPTs). Improved the Sea Trial engagement with ONR, Systems Commands, Warfare Centers, and the Fleet Collaborative Teams through senior leadership briefs and updates. Established a new level of engagement with the Advanced Concept Technology Demonstration (ACTD) Program. Worked extensively on processes in the S&T community including Sea Trial, ACTDs, FNCs, SBIRs, N6/N7 Gap Analysis, etc.
- Science Advisor, Joint Forces Command (JFCOM), participated in the JFCOM Joint Test and Evaluation (JT&E) arena, led feasibility studies and participated in the JT&E Senior Advisory Council. Worked as the JFCOM Liaison to the Defense Advanced Research Projects Agency (DARPA) on a Collaborative Partnership between DARPA and JFCOM. Established a broader S&T Advisor office at JFCOM through the addition of a part-time Army Science Advisor, and worked to add an Air Force Science Advisor. Addressed technology shortfalls to support the development of an Operational Net Assessment.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: R0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Commander U.S. Naval Forces Central Command (COMUSNAVCENT), worked with Science Advisor, Commander U.S. Naval Forces Europe (COMUSNAVEUR), on Coalition Chat Line in the Commander U.S. Forces Central Command (NAVCENT) Area of Responsibility (AOR). Worked on the deployment of a floating security barrier for the Mina Salman pier area and distribution of Phraselators within NAVCENT area. Investigated the security and safety of potable water at NAVCENT, as well as candidate technologies for the Combating Terrorism Readiness Initiative Fund.
- Science Advisor, Commander Submarine Forces Atlantic Fleet (COMSUBLANT), provided wide-ranging support to the COMSUBLANT staff on science and technology issues. Involved with the USS VIRGINIA Class advanced sail analysis, the ASW Improvement Program semi-annual meetings, and the Unmanned Underwater Vehicle (UUV) Master Plan workshop. Worked with Naval Meteorology and Oceanography Command to develop S&T programs to better understand the operational environment.
- Science Advisor, Commander Naval Surface Pacific Fleet (COMNAVSURFPAC), was involved with many aspects of the Littoral Combat Ship (LCS) ASW Mission Module ranging from review of the Operational Requirements Documents (ORD) to consideration of use of X-craft as a surrogate for LCS in experimentation. Maintained a strong working relationship with the Surface Ship Technology (SURFTECH) organization. Worked projects that included a wireless acoustic ASW sensor array and a continued effort on a near-term mine avoidance capability for surface combatants.
- Science Advisor, Commander Third Fleet (COMTHIRDFLT), pursued as a primary focus the Collaborative Operations and Responsive Technology Experimentation (CORTEX). Worked with the Technical Solutions Programs to review line of sight communications efforts.
- Science Advisor, Commander Sixth Fleet (COMSIXTHFLT) (C6F), worked to support teams within the C6F AOR with biometric systems for identification of persons of interest and non-lethal weapons to be used during special operations. Worked with the C6F staff on Common Operating Picture experimentation.
- Science Advisor, (COMUSNAVEUR), evaluated the ACTD in the European Command (EUCOM) AOR. Led the Coalition Chat Line Project and worked to transition this demonstration project into acquisition.
- Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), addressed key concerns in the Improvised Explosive Device (IED) detection, protection from IED effects, and remote sensor networks.
- Science Advisor, Strategic Studies Group (SSG), supported the research phase of SSG's key S&T study and synthesized the results of the research (i.e., Adaptive Force, Globalized FORCENet & Decision Making, Homeland Protection, Persistent Maritime Power Projection and Sea Superiority). Continued to support each of the SSG Concept Generation teams.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: R0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Joint Interagency Task Force (JIATF)-South, pursued numerous projects and experiments in the JIATF-South AOR, including Counter Drug Unit upgrades to P3 maritime patrol aircraft, use of robotic watercraft for surveillance, experimental use of Global Hawk Unmanned Aerial Vehicle (UAV) as counter drug maritime surveillance platforms, and tested a tethered aerostat radar system.
- Science Advisor, Commander Marine Force Atlantic Force (COMMARFORLANT), worked on several experiments associated with Blue Force Tracking and Combat Identification (CID). Regularly interacted with other Marine Corps Science Advisors on the Pilot Electronic Kneeboard in conjunction with Naval Air Systems Command (NAVAIR) and several language translation efforts.
- Science Advisor, Commander Naval Air Systems Command (COMNAVAIRFOR), developed the Aircraft Carrier Situational Awareness System and participated on the Naval Aviation Simulation Master Plan (NASMP) IPT, investigated bio-fouling of west coast carriers, and managed a variety of Tech Solution projects.
- Science Advisor, Chief of Naval Operations (CNO) Executive Panel (CEP), supported the CEP Near Term Assessment Study with emphasis on technology issues. Worked with the Office of Secretary of Defense (OSD) Policy sub-groups on technology issues. Coordinated the SSG in a mentoring session.
- Science Advisor, CG II MEF, was involved with a number of force protection initiatives and coordination of demonstrations during Combined Joint Task Force Exercises (CJTTFEX). Participated in several language translation technology initiatives. Coordinated the Long Range Acoustic Device (LRAD) briefs and Non-Lethal Weapons demonstrations at II MEF. Participated in the development of Force Protection briefs by Applied Research Corporation. Supported the Deka Generator Evaluation by 2nd Marine Aircraft Wing (MAW). Supported the coordination of the Grenadier Brat (GB) and Coalition Combat ID (CCID) demonstrations during CJTTFEX and continued the evaluation of Active Audio Tool.
- Science Advisor, Commander Marine Force Pacific (COMMARFORPAC), was involved in near-term technologies for counter-IED, counter-Man-Portable Anti-Defense System (MANPADS), counter-shooter, and Non-Lethal Weapons technology. Regularly interacted with other Marine Corps Science Advisors on various language translation technologies.
- Science Advisor, Commander Pacific Fleet (COMPACFLT), efforts have focused on ASW. Continued as a member of Task Force ASW and interacted heavily with the leadership of the Littoral ASW FNC. Coordinated the development of an ASW technologies assessment.
- Science Advisor, Naval Supply Systems Command (NAVSUP), researched Radio Frequency Identification (RFID) applications for NAVSUP. Worked a condition-based maintenance program to review the use of wireless networks to communicate machinery health information to a host system. Managed the Collaborative Logistics Program for NAVSUP.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: R0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Navy Warfare Development Center (NWDC), explored multiple S&T-related initiatives, including the NAVAIR DSS (Decision Support System), the MOVES Institute XMSF (eXtensible Modeling and Simulation Framework), the unsolicited Digital Harbor proposal, the ONR/HAI (Hydro Acoustics, Inc.) proposal, FnCE (FORCEnet Composable Environment), and eXtendable Technical C4I Framework (XTCF) Sea Trial. Coordinated special experimentation projects for the Sea Trial initiative. Represented NWDC in various forums and project planning meetings. Worked with CFFC to continue to improve the Sea Trial Information Management System (STIMS). Worked very closely with the Director, Naval Undersea Warfare Center (NUWC).
- Science Advisor, Naval Criminal Investigation Service/OPNAV (NCIS/N34), oversaw the implementation of technologies at the North Island AT/FP Technology Test Bed. Continued to manage the Area Security Operations Command and Control System (ASOCC). Worked with the Technology Solutions Program to develop multiple publications on AT/FP.
- Science Advisor, U. S. Pacific Command (USPACOM), participated in counter-IED systems installation in OIF with the Naval Explosive Ordnance Disposal Technology Division. Worked closely with Deputy Under Secretary of Defense for Advanced Systems and Concepts (DUSD AS&C) to coordinate ACTD efforts in the PACOM AOR. Participated in the annual staff talks with Singapore.
- Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC), developed an action plan to establish an ongoing partnership between the Fleet, the Meteorological/Oceanographic (METOC) community, and the oceanographic research community. Involved the National Defense Center of Excellence for Research in Ocean Acoustics (CEROS) programs and worked on issues for at-sea testing events.
- Science Advisor, Commander Special Warfare Command (COMNAVSPECWAR), coordinated the fielding of an optics detection system to assist the SEALs. Reviewed the Naval Surface Warfare (NSW) Technology Base program to give more direct input from the SPECWAR community. Identified sources and routes of transition funding to take capabilities under development and mature them to a point where they are ready for procurement.
- Science Advisor, OPNAV N81, participated in a N81 initiative to assess the Navy's role in the Global War on Terror, which extended to all aspects of the issue from technology to training to force structure. Advocated for inclusion of promising technologies into the modeling effort in support of PR07 to quantify/highlight ongoing S&T work.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROJECT NUMBER: R0834

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT TITLE: LABORATORY FLEET SUPPORT

FY 2005 Plans:

Continue FY 04 efforts with 25 Science Advisors.

FY 2006 Plans:

Continue FY 05 efforts with 25 Science Advisors.

FY 2007 Plans:

Continue FY 06 efforts with 22 Science Advisors.

C. OTHER PROGRAM FUNDING SUMMARY:

NAVY RELATED RDT&E:

- PE 0601152N In-House Laboratory Independent Research
- PE 0601153N Defense Research Sciences
- PE 0602114N Power Projection Applied Research
- PE 0602123N Force Protection Applied Research
- PE 0602131M Marine Corps Landing Force Technology
- PE 0602235N Common Picture Applied Research
- PE 0602236N Warfighter Sustainment Applied Research
- PE 0602271N RF Systems Applied Research
- PE 0602435N Ocean Warfighting Environment Applied Research
- PE 0602747N Undersea Warfare Applied Research
- PE 0602782N Mine and Expeditionary Warfare Applied Research
- PE 0603114N Power Projection Advanced Technology
- PE 0603123N Force Protection Advanced Technology
- PE 0603235N Common Picture Advanced Technology
- PE 0603236N Warfighter Sustainment Advanced Technology
- PE 0603271N RF Systems Advanced Technology
- PE 0603640M USMC Advanced Technology Demonstration (ATD)
- PE 0603727N Joint Experimentation
- PE 0603729N Warfighter Protection Advanced Technology

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: R0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

PE 0603747N Undersea Warfare Advanced Technology

PE 0603758N Navy Warfighting Experiments and Demonstrations

PE 0603782N Mine and Expeditionary Warfare Advanced Technology

D. ACQUISITION STRATEGY: Not applicable.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROJECT NUMBER: Various

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R9111	FY 2004	FY 2005
LASH MCM/ISR	6,734	3,368

FY 04 Accomplishments:

Augmented the development of a hyperspectral based, airborne sensor for near shore minefield classification.

- Incorporated improved Navigation/Stabilization system capabilities into the Pod/Sensor system.
- Continued automatic detection algorithm development supported by flight data.
- Participated in Exercise Millennium Challenge with the Navy's Very Shallow Water (VSW) Detachment to detect mines in the VSW and Surf Zone.
- Continued to be guided by metrics determined in concert with OPNAV, Navy acquisition, and Marine Corps Systems Command.
- Tested the new airborne sensor's effectiveness in detecting mines in the surf zone.

FY 05 Plans:

- Continue automatic detection algorithm development supported by flight data.
- Continue to be guided by metrics determined in concert with OPNAV, Navy acquisition, and Marine Corps Systems Command.

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE:		
APPROPRIATION/BUDGET ACTIVITY						February 2005		
RDT&E, N /BA-7 Operational Sys Dev						PROGRAM ELEMENT (PE) NAME AND NO.		
						0206313M Marine Corps Communications Sys		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	238.114	273.870	237.081	210.955	264.419	256.074	194.692	186.937
C2270 Command Post Systems	16.575	10.586	18.407	18.523	17.087	19.875	18.343	18.005
C2272 Intelligence C2 Systems	19.677	22.299	27.025	22.440	21.024	18.197	21.432	22.673
C2273 Air Operations C2 Systems	94.592	93.339	87.444	48.374	35.601	21.611	23.485	25.901
C2274 Warfare Systems	9.493	11.358	5.989	3.829	3.595	4.167	4.702	3.722
C2275 Radio Systems	8.904	8.536	15.640	14.542	13.790	12.088	8.820	8.039
C2276 Communications Switching & Control Systems	6.944	3.720	6.220	7.642	7.094	4.891	1.938	1.817
C2277 System Engineering & Integration	9.225	7.787	9.697	8.877	9.183	9.363	9.686	9.909
C2278 Air Defense Weapons Systems	20.876	22.535	16.253	15.742	12.489	6.217	5.362	5.669
C2315 Training Devices/Simulators	8.440	4.804	8.941	7.333	15.023	13.960	10.765	10.884
C2510 MAGTF CSSE & SE	13.682	17.829	17.724	21.273	26.212	27.788	23.633	16.343
C3099 Radar Systems	19.393	51.055	23.741	42.380	103.321	117.917	66.526	63.975
C9273 Defense Emergency Response Fund (DERF)	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C9276 Radar and Marine Corps Ship Maneuver	10.175	1.452	0.000	0.000	0.000	0.000	0.000	0.000
C9632 Advanced Ferrite Antenna (AFA)	0.000	2.080	0.000	0.000	0.000	0.000	0.000	0.000
C9633 Miniaturized Combat ID System	0.000	0.990	0.000	0.000	0.000	0.000	0.000	0.000
C9634 Marine Corps Wideband Communications	0.000	4.211	0.000	0.000	0.000	0.000	0.000	0.000
C9635 USMC Hitch Hiker	0.000	1.683	0.000	0.000	0.000	0.000	0.000	0.000
C9636 Display Technology Program	0.000	1.684	0.000	0.000	0.000	0.000	0.000	0.000
C9637 Marine Airborne Re-Trans Sys (MARTS)	0.000	3.368	0.000	0.000	0.000	0.000	0.000	0.000
C9638 Covert Sight for Urban Warfare	0.000	1.484	0.000	0.000	0.000	0.000	0.000	0.000
C9639 Improved Ground Based Transportable Radar	0.000	2.080	0.000	0.000	0.000	0.000	0.000	0.000
C9640 USMC Electronic Battlefield Fusion	0.000	0.990	0.000	0.000	0.000	0.000	0.000	0.000

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT (PE) NAME AND NO. 0206313M Marine Corps Communications Sys		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into seven functional areas and one supporting functional area as follows: intelligence C2, fire support C2, air operations C2, radio systems C2, combat service support C2, warfare C2, radar systems C2, and C2 support (information processing and communications). Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the commander's decision processes have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces.</p> <p>This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>				
B. PROGRAM CHANGE SUMMARY				
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) FY 2005 President's Budget:	247.179	268.638	219.349	221.868
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions		-9.700		
(U) Congressional Rescissions				
(U) Congressional Increases		27.750		
(U) Reprogrammings	-6.360		21.889	-6.788
(U) SBIR/STTR Transfer	-2.635			
(U) Minor Affordability Adjustment	-0.070	-12.818	-4.157	-4.125
(U) FY 2006 President's Budget:	238.114	273.870	237.081	210.955
CHANGE SUMMARY EXPLANATION:				
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys				PROJECT NUMBER AND NAME C2270 Command Post Systems			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		16.575	10.586	18.407	18.523	17.087	19.875	18.343	18.005
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) Systems assigned to this project are to be used by commanders and their staffs to process, fuse, and tailor information to assist decision-making and enhance situational awareness. They will integrate and share information from sources both internal and external to the Marine Air-Ground Task Force (MAGTF) to provide a shared understanding of the battlespace. Maneuver C2 is the executive layer of decision support that retrieves and fuses information from functional areas. It provides an integrated representation of the battlespace or a specific area of concern. The subprojects below develop systems that report unit status and location to the Tactical Combat Operations (TCO) System, and disseminate maneuver information throughout the battlespace. 1. Advanced Field Artillery Tactical Data System (AFATDS) will consist of fire support command and control software fielded on Marine Corps common hardware. AFATDS will provide the MAGTF with an automated ability to rapidly integrate all supporting arm assets into maneuver plans. Provides digital fire support Command and Control (C2) automation to Marine Air Ground Task Force (MAGTF) Fire Support Coordination Centers, Fire Direction Centers, and Supporting Arms Coordination Centers (afloat). 2. MAGTF Software Baseline (MSBL). MAGTF Software Baseline (MSBL) is an evolutionary software acquisition program that provides common software functionality to enhance and improve the capability and interoperability between multiple Marine Corps MAGTF C4ISR systems. The common software functionality provides the warfighter situational awareness and allows the Commander to successfully operate in a joint/combined environment. This common software functionality is accomplished through two separate but interrelated baselines software development efforts. The Common Operating Environment (COE) Unix baseline, which supports Unix based server systems and the Command and Control Personal Computer (C2PC) baseline which supports Windows based tactical workstations/systems used at the company and above levels. A "light" version of C2PC is being developed for tactical workstations/systems used at the platoon and below level. 3. Tactical Command Operations (TCO) will provide systems to the command post which support Maneuver C2. Maneuver C2 is the executive layer of decision support that pulls and fuses information from other functional areas. 4. The Data Automated Communications Terminal (DACT) is the Marine Corps' Blue Force Tracking Program of Record. It is the primary source of all tactical ground tracks below the Marine battalion, and is the primary provider of Position Location Information (PLI) into the Combat Operations Center (COC) and to Joint forces viewing the Common Operational Picture (COP). It is the foundational Marine data input and messaging device, building the COP from the platoon up to the battalion and regiment. Furthermore, DACT is one tool in the Joint Combat ID toolbox that the Marine Commander uses to reduce the potential for fratricide. This initiative addresses shortcomings in the currently-fielded and planned DACT systems as identified during OEF / OIF. The Mounted DACT (M-DACT) (IOC 2nd Qtr FY03) consists of the Ruggedized Handheld Computer (RHC) with Command and Control Personal Computer (C2PC) software integrated with various tactical vehicle platforms and communications systems through the use of a Vehicle Modification (VM) Kit. It is mounted in vehicles from the battalion to the mechanized platoon (HMMWV, AAV, LAV, and Tanks). The acquisition objective of 1074 systems has been procured. The Dismounted DACT (D-DACT) IOC 2nd Qtr FY05 is a smaller, lighter handheld device having greater battery life, consisting of the Rugged Personal Digital Assistant (R-PDA) with Windows Command and Control CE (C2CE) software. The Dismounted DACT is intended for the dismounted user at the platoon level. 1108 systems of the acquisition objective of 1944 have been procured. Future DACT improved capabilities for replacement systems will meet stipulated Operational Requirements and OIF-derived Requirements to provide Blue Force Tracking and automated communications support for commanders in tactical operations. New capabilities will include Non Line of Sight (NLOS) and enhanced communication paths; improved Graphic User Interface (GUI) software and a larger screen, and Selective Availability Anti-Spoofing Module (SAASM) GPS integration. 5. Target Location Designation and Hand-Off System (TLDHS) - Provides fire support observers/controllers (OCs) with the ability to: observe their area of interest, quickly and accurately locate ground targets, and digitally request and coordinate target engagements by field artillery (FA), close air support (CAS), and naval surface fire support (NSFS). TLDHS will also provide the capability to designate targets for laser-guided munitions and laser spot trackers. TLDHS is comprised of and integrates two major subsystems: the Targeting Subsystem and the Target Hand-Off Subsystem. USMC MS III (Fielding)for TLDHS was 2Q04.									

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys		PROJECT NUMBER AND NAME C2270 Command Post Systems	
(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.254	0.213	0.170
RDT&E Articles Qty				
TCO: Program management and engineering support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.244	0.204	0.164
RDT&E Articles Qty				
TCO: System testing and integration to develop additional functional capabilities.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.215	0.185	0.149
RDT&E Articles Qty				
TCO: Integrate software changes into new system and perform testing.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.323	0.283	0.228
RDT&E Articles Qty				
TCO: Testing and validations of advanced concepts and technologies.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.200	1.200	1.220	1.240
RDT&E Articles Qty reprogrammed				
MAGTF C4I BASELINE/C2PC: Build, test, field and support COE compliant versions of GCCS-J in support of the six Warfighting functions. This effort focuses primarily on the integration, inclusion and incorporation of Fire Support, Maneuver and Intel capabilities.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.307	0.245	0.250	0.255
RDT&E Articles Qty				
MAGTF C4I BASELINE/C2PC: Engineering Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.266	0.535	0.546	0.557
RDT&E Articles Qty				
MAGTF C4I BASELINE/C2PC: Program Management Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.115	0.000	0.000	0.000
RDT&E Articles Qty				
MAGTF C4I BASELINE/C2PC: Conduct Life Cycle Cost Estimate				

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys		PROJECT NUMBER AND NAME C2270 Command Post Systems	
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		8.644	2.980	5.027	6.221
RDT&E Articles Qty					
MAGTF C4I BASELINE/C2PC: Development of MSBL Client in MS Windows environment (C2PC) and foot mobile Marines in Windows CE environment, Command and Control Compact Edition (C2CE).					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.200	0.000	0.000
RDT&E Articles Qty					
MAGTF C4I BASELINE/C2PC: Conduct C2PC Code Quality Analysis.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.100	0.000	0.000
RDT&E Articles Qty					
MAGTF C4I BASELINE/C2PC: Conduct C2PC Study Analysis.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.020	0.000	0.000
RDT&E Articles Qty					
MAGTF C4I BASELINE/C2PC: NMCI Cost					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.040	0.100	0.000	0.000
RDT&E Articles Qty					
MAGTF C4I BASELINE/C2PC: MCSC Program Office Travel					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.070	0.085	1.537	0.818
RDT&E Articles Qty					
AFATDS: Development of BUCS and LWTDS SW					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.505	0.000	0.000	0.000
RDT&E Articles Qty					
AFATDS: Developed AFATDS V6.4 software. Simplified human factors interface to allow easier initial and sustainment training. Increased functionality with Marine Corps fire support systems (including Towed Artillery Digitization and HIMARS.)					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.300	0.500	0.000	0.000
RDT&E Articles Qty					
AFATDS: Field Integration Team (FIT) testing, software development, and FMF interoperability support.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.100	0.000	0.506	0.244
RDT&E Articles Qty					
AFATDS Program management, engineering support and hardware development.					

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys		PROJECT NUMBER AND NAME C2270 Command Post Systems	
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.030	0.032	0.000	0.036
RDT&E Articles Qty					
AFATDS: MCTSAA tested new SW and SOST.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.536	2.217	1.848
RDT&E Articles Qty					
AFATDS: Development of improved interoperability with USMC and Joint systems. Enhancement to EMT and C2PC interface.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	1.478	1.010	1.965
RDT&E Articles Qty					
AFATDS: Development of SWBII and future software. Increased functionality, interoperability, and ease of use. Better interface with USMC and USN systems.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.020	0.000	0.000	0.000
RDT&E Articles Qty					
DACT: DACT Security Accreditation, Develop software recovery solution.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.580	1.200
RDT&E Articles Qty					
DACT: DACT FMF test support.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.050	0.050
RDT&E Articles Qty					
DACT: DACT Exercise Support					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.339	1.102	1.008
RDT&E Articles Qty					
DACT: DACT Development					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	1.180	0.650	0.000
RDT&E Articles Qty					
DACT: Protocol Implementation					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.226	0.000	0.000	0.000
RDT&E Articles Qty					
DACT: Internal 188-220 modem development					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.372	0.000	0.000	0.000
RDT&E Articles Qty					
DACT: Development, integration, testing and fielding of the Tank and DACT Vehicle Mount.					

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EXHIBIT R-2a, RDT&E Project Justification						DATE:				
						February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communications Sys			C2270 Command Post Systems					
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost		0.299		0.000		0.607		0.600		
RDT&E Articles Qty										
DACT: DACT Training Development										
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost		0.000		0.020		0.020		0.020		
RDT&E Articles Qty										
DACT: DACT Technical Support Plan										
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost		0.019		0.000		0.450		0.000		
RDT&E Articles Qty										
DACT: Dismounted DACT Development										
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost		4.062		0.000		1.750		1.750		
RDT&E Articles Qty										
TLDHS: Test Development and integration support.										
(U) Total \$		16.575		10.586		18.407		18.523		
(U) PROJECT CHANGE SUMMARY:		FY 2004	FY 2005	FY 2006	FY 2007					
(U) FY 2005 President's Budget:		9.064	10.727	12.308	9.932					
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions										
(U) Congressional/OSD Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings		7.632	0.000	5.941	8.371					
(U) SBIR/STTR Transfer		-0.121								
(U) Minor Affordability Adjustment			-0.141	0.158	0.220					
(U) FY 2006 President's Budget:		16.575	10.586	18.407	18.523					
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PMC BLI# 463100 TCO	1.152	3.246	0.194	0.412	0.406	0.208	0.218	0.228	Cont	Cont
PMC BLI# 463100 AFATDS	0.750	0.173	4.191	8.113	9.015	3.271	3.385	3.451	Cont	Cont
PMC BLI# 463100 DACT	10.851	0.935	7.132	7.826	2.020	7.021	5.126	3.194	Cont	Cont
PMC BLI#463100 TLDHS	0.000	0.000	1.509	1.515	0.911	1.013	1.013	2.026	Cont	Cont
PMC BLI# 463100 GCCS	3.879	3.759	4.229	4.391	4.607	4.517	4.864	4.983	Cont	Cont

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2270 Command Post Systems
<p>(U) Related RDT&E:</p> <p>(U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II) Defense. (U) Navy Tactical Flag Communication and Control System.</p> <p>(U) D. ACQUISITION STRATEGY:</p> <p>(U) TCO: Contracting is via General Services Administration schedules with various vendors and is for software maintenance and COTS evaluation and integration. Performance base reviews are conducted quarterly by the PMO.</p> <p>(U) MSBL: Funds applied to Northrop Grumman Information Technology (NGIT), San Diego, CA for development of MSBL client in MS Windows environment and development of client for foot mobile Marines in Windows CEOSS environment. Funds applied to Titan Corporation, Dumfries, VA and NGIT, Stafford, VA under the CEOSS contract for program management and engineering support. Funds applied to MCR Federal for C2PC Life Cycle Cost Estimate development. Funds applied to SPAWAR, Charleston, SC for build, test, and support COE compliant versions of GCC-J in support of six Warfighting functions.</p> <p>(U) AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Ft. Monmouth, N. J. R&D efforts will be a combined effort between the software developer (Raytheon), the Army PM and the USMC of software enhancements for the next planned versions of AFATDS (V6.3.2 and V7).</p> <p>(U) DACT: The Program develops software and hardware for two operational domains. The Mounted DACT (M-DACT) (IOC 2nd Qtr FY03) consists of the Ruggedized Handheld Computer (RHC) with Command and Control Personal Computer (C2PC) software integrated with various tactical vehicle platforms and communications systems through the use of a Vehicle Modification (VM) Kit. It is mounted in vehicles from the battalion to the mechanized platoon (HMMWV, AAV, LAV, and Tanks). The acquisition objective of 1074 systems has been procured. The Dismounted DACT (D-DACT) (IOC 2nd Qtr FY05) is a smaller, lighter handheld device having greater battery life, consisting of the Rugged Personal Digital Assistant (R-PDA) with Windows Command and Control CE (C2CE) software. The Dismounted DACT is intended for the dismounted user at the platoon level. 1108 systems of the acquisition objective of 1944 have been procured.</p> <p>(U) TLDHS: The acquisition of components (software/hardware) for the TLDHS initiative wil maximize the use of existing COTS, GOTS, NDI and GFE. Software development is conducted utilizing a sole source small-business contract.</p>		

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Command Post Systems	
E. Major Performers:			
TACTICAL COMBAT OPERATIONS (TCO)			
FY 04	MCTSSA, Camp Pendleton, CA. System of systems testing. Oct 04.		
FY 05	SPAWAR, CHARLESTON, S.C. Provide funds to EMA, INC, Charleston, S.C. for Testing and Validation of new workstation concept, integrate software changes into new system, and perform testing. Nov 04.		
FY 06	SPAWAR, CHARLESTON, SC Provide funds to EMA, INC, Charleston, SC for testing of new workstation concept, integration of new software, and final acceptance testing. Nov 05.		
FY 07	SPAWAR, CHARLESTON, SC Provide funds to EMA, INC, Charleston, SC for testing of new server concept, integration of new software, and final acceptance testing. Nov 06.		
MAGTF SOFTWARE BASELINE (MSBL)			
FY 04	NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), San Diego, CA. Software development C2PC and C2CE (C2PC Light). Contract awarded date: Mar 04 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Contract awarded date: Nov 03 NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), Stafford, VA. Engineering support. Contract awarded date: Oct 03 TITAN CORPORATION, Stafford, VA. Program Management Support. Contract awarded date: Oct 03 MCR Federal, Reston, VA. Life Cycle Cost Estimate. Contract awarded date: Apr 04		
FY 05	NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), San Diego, CA. Software development C2PC and C2CE (C2PC Light). Estimated contract award date: Feb 05 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Estimated contract award date: Nov 04 NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), Stafford, VA. Engineering support. Estimated contract award date: Oct 04. TITAN CORPORATION, Stafford, VA. Program Management Support. Estimated contract award date: Oct 04 MCTSSA, software testing Award Nov 04. Naval Post Graduate School, C2PC Study Analysis. Estimated contract award date: Feb 05		
FY 06	NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), San Diego, CA. Software development C2PC and C2CE (C2PC Light). Estimated contract award date: Dec 05 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Estimated contract award date: Nov 04 NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), Stafford, VA. Engineering support. Estimated contract award date: Oct 05 TITAN CORPORATION, Stafford, VA. Program Management Support. Estimated contract award date: Oct 05		
FY 07	NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), San Diego, CA. Software development C2PC and C2CE (C2PC Light). Estimated contract award date: Dec 06 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Estimated contract award date: Dec 06 NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), Stafford, VA. Engineering support. Estimated contract award date: Oct 06 TITAN CORPORATION, Stafford, VA. Program Management Support. Estimated contract award date: Oct 06		

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Command Post Systems
ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM (AFATDS)		
FY 04	RAYTHEON, Fort Wayne IN. Develop and test software. Oct 03. MCOTEA, Quantico VA. Test software. Award Dec 03. MCTSSA, Software testing. Award Oct 03.	
FY 05	RAYTHEON, Fort Wayne IN. Develop and test software. Nov 04. MCOTEA, Quantico VA. Test software. Award Nov 04. MCTSSA, Software testing. Award Nov 05	
FY 06	RAYTHEON, Fort Wayne IN. Develop and test software. Oct 06. MCOTEA, Quantico VA. Test software. Award Dec 06. MCTSSA, Software testing. Award Oct 06.	
FY 07	RAYTHEON, Fort Wayne IN. Develop and test software. Nov 07. MCOTEA, Quantico VA. Test V6.3.2 software. Award Nov 07. MCTSSA, Software testing. Award Nov 07.	
DATA AUTOMATED COMMERCIAL TERMINAL (DACT)		
FY 04	NORTHROP GRUMMAN, San Diego, CA. Software Development, Jan 03. NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA. Program Support. Oct 03. GENERAL DYNAMICS (via Army CECOM), Wireless communication, Feb 04. COMTECH, Germantown, MD. Over the horizon communication, Mar 04.	
FY 05	NORTHROP GRUMMAN, San Diego, CA. Software Development Ocean Systems Engineering Corporation (OSEC), Stafford, VA Training Development Raytheon, Modem Development Titan Corporation, Stafford, VA Program Support NORTHROP GRUMMAN Mission Systems (NGMS), Stafford, VA. Program Support.	
FY 06	NORTHROP GRUMMAN, San Diego, CA. Software Development Ocean Systems Engineering Corporation (OSEC), Stafford, VA Training Development Raytheon, Modem Development Titan Corporation, Stafford, VA Program Support NORTHROP GRUMMAN Mission Systems (NGMS), Stafford, VA. Program Support.	
FY 07	NORTHROP GRUMMAN, San Diego, CA. Software Development Ocean Systems Engineering Corporation (OSEC), Stafford, VA Training Development Titan Corporation, Stafford, VA Program Support NORTHROP GRUMMAN Mission Systems (NGMS), Stafford, VA. Program Support.	
TARGET LOCATION DESIGNATION AND HAND-OFF SYSTEM (TLDHS)		
FY 04	NSWC, Crane, IN. Block I Fielding Integration. Dec 03. NSWC Dahlgren, King George, VA. Government Test Agent. Oct 03 Stauder Technologies, Stt. Peters, MO. Software Developer. May 04	
FY05	N/A	
FY06	TBD	
FY07	TBD	

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Exhibit R-3 Cost Analysis										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev				PROGRAM ELEMENT 0206313M Marine Corps Communications Sys				PROJECT NUMBER AND NAME C2270 Command Post Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DACT	FFP	NORTHROP GRUMMAN, Stafford, VA	0.724	0.100	10/03							Cont	Cont	
TLDHS	RCP	NSWC Crane	1.149	3.920	12/03	0.000		0.070	12/05	0.150	12/06	0.000	5.289	
Subtotal Support				4.020		0.000		0.070		0.150		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TCO	WR	MCTSSA, Camp Pndltn, CA	0.261	0.000	10/03	0.156	12/04	0.180	12/05	0.180	12/06	Cont	Cont	
TCO	WR/RCP	SPAWAR, Charleston, SC				0.382	11/04	0.288	11/05	0.197	11/06	Cont	Cont	
TLDHS	WRR	NAWC, China Lake, CA	0.144	0.000	12/03	0.000		0.150	12/05	0.070	12/06	0.000	0.364	
TLDHS	MIPR	JITC, Ft. Huachuca	0.000	0.000	10/03	0.000		0.030	10/05	0.030	10/06	0.000	0.060	
TLDHS	WRR	NSWC Dahlgren	0.638	0.000	10/03	0.000		0.500	12/05	0.500	12/06	0.000	1.638	
TLDHS	RCP	NGIT, San Diego, CA	2.635									0.000	2.635	
Subtotal T&E				0.000		0.538		1.148		0.977		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal Management				0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost				16.575		10.586		18.407		18.523		Cont	Cont	

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EXHIBIT R-4/4a, Schedule Profile/Detail

DATE:

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APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

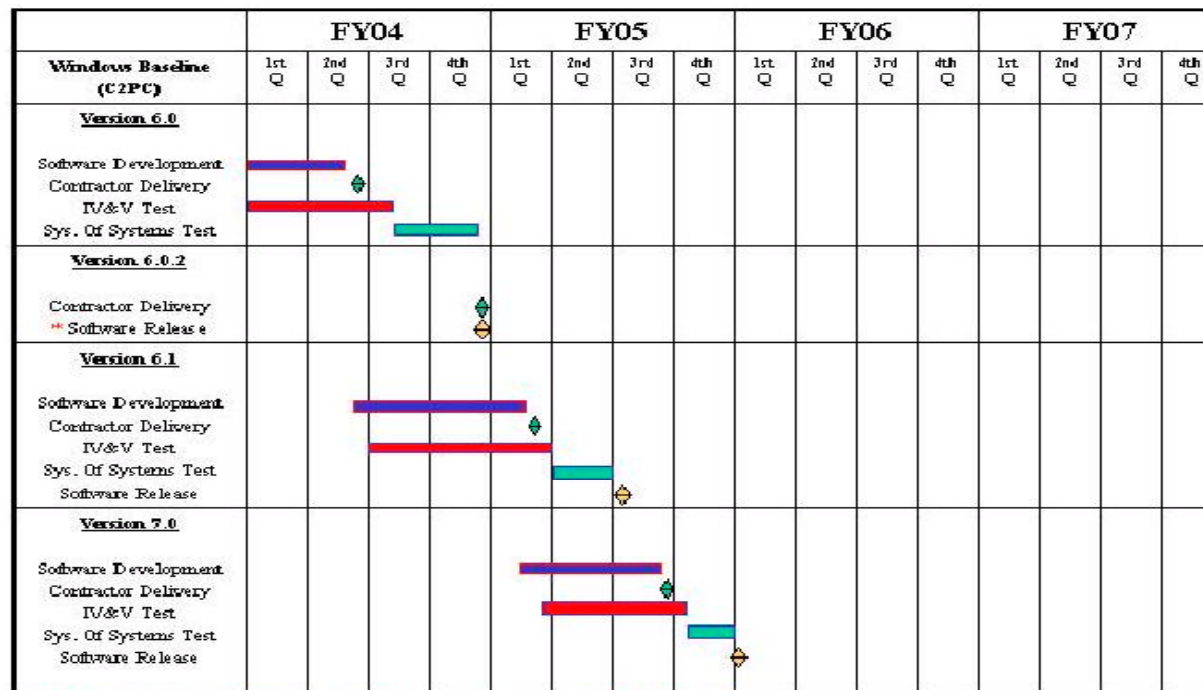
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Sys Dev

0206313M Marine Corps Communications Sys

C2270 Command Post Systems

MSBL Program Schedule



* 6.0.2 will release to DISA and all other services, except the Marine Corps.

Program Funding Summary

(APPN, BLI #, NOMEN)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N MSBL	10.572	5.380	5.834	6.012	6.165	6.363	6.521	6.617	Cont	Cont
(U) RDT&E,N C2PC	0.000	0.000	1.209	2.261	2.179	2.262	2.190	2.285	Cont	Cont
LINE TOTAL	10.572	5.380	7.043	8.273	8.344	8.625	8.711	8.902	Cont	Cont

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EXHIBIT R-4/4a, Schedule Profile/Detail

DATE: **February 2005**

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APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA-7 Operational Sys Dev

PROGRAM ELEMENT NUMBER AND NAME
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2270 Command Post Systems

0206313M	Marine Corps Communications Sys
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C2270 Command Post Systems

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communication Systems			C2272 Intelligence C2 Systems				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		19.677	22.299	27.025	22.440	21.024	18.197	21.432	22.673
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Intelligence Command and Control (C2) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems below collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.</p> <p>1. Tactical Exploitation of National Capabilities (TENCAP) is a program designed to enhance the ability of tactical Marine Corps forces to exploit the capabilities of national intelligence-gathering systems. Congressionally directed, it requires close liaison with the intelligence community and involves complex and highly-sensitive activities.</p> <p>2. The Topographic Production Capability (TPC) is an integrated, independently deployed, self-contained terrain analysis system designed for data acquisition, manipulation, analysis and output, providing commanders and staff with GEOINT support at the MEF and the MEW levels. The TPC configurations consist of COTS/Government-Off-The-Shelf(GOTS) software packages, servers, workstations, large- format printing/plotting devices and large-format scanning devices, all mounted in transit cases. The TPC provides critical, timely, and accurate digital and hardcopy geospatial information to support mission planning and execution. The TPC provides the capability to collect, process, exploit, analyze, produce, disseminate, and use all-source geospatial information as a foundation for a COP for the MAGTF Commander. The TPC is used by the Topographic Platoon of the MEF and provides deployable modules down to the Major Subordinate Command (MSC) and the Marine Expeditionary Unit (MEU). It supports the Commander, Joint Task Force or Marine Component Commander. The TPC provides the frame work for the Common Tactical Picture (CTP) of the battlefield; terrain analysis in support of the Intelligence Preparation of the Battlefield (IPB) process; all source terrain data collection, analysis and integration; and decision-aid development support.</p> <p>3. The Joint Surveillance Target Attack Radar (JSTARS) connectivity program will research and integrate a client software connectivity solution which will allow the JSTARS Moving Target Indicator (MTI), Fixed Target Indication (FTI) and Synthetic Aperture Radar (SAR) data to be passed from the JSTARS Common Ground Station (CGS) to lower echelons within the MAGTF. Additionally, The Marine Corps will continue future MTI, CDL and MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development .</p> <p>4. The Coastal Battlefield Reconnaissance and Analysis (COBRA) system is a passive multispectral sensor system capable of operating in a Manned Aircraft and an Unmanned Aerial Vehicle (UAV). Imagery recorded on the UAV or disseminated via data link is analyzed by the COBRA processing station. COBRA algorithm processing provides near real-time automatic minefield detection with Differential Global Positioning System (DGPS) location accuracy.</p> <p>5. The JSIPS-TEG - The TEG System is the only tactical imagery exploitation system in the USMC and is one of the four systems comprising the Distributed Common Ground\Surface System-Marine Corps (DCGS-MC). It is made up of two modular and scaleable echelon-tailored configurations: the TEG-Main (TEG-M) and the TEG Remote Workstation (TEG-RWS). The TEG provides a mobile, tailorable, tactically deployable capability to receive and exploit imagery, and disseminate reports and secondary imagery products for use in all aspects of operational planning. The TEG is also interoperable with the Army's Tactical Exploitation System (TES), the USAF Intelligence Systems Reconnaissance Manager (ISRM), the DCGS-Navy (DCGS-N) and other USMC C4I systems.</p> <p>6. The Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program (CIHEP) is an intelligence collection, and reporting suite of equipment, employing Commercial-Off-The-Shelf (COTS) and non-developmental items (NDI) of equipment and software. It will produce digital soft copy as well as hard copy CI, Interrogator-Translator (IT) and HUMINT information reports and images for the Marine Air Ground Task Force (MAGTF) or Joint Force (JTF) Commander. CIHEP will allow the electronic storage and dissemination of HUMINT information throughout the command, as well as for low volume traditional hard copy dissemination.</p> <p>7. Team Portable Collection System - Multi-Platform Capable (TPCS-MPC) - The TPCS- MPC will provide the MAGTF commander with a modular and scaleable carry on/off suite of equipment capable of conducting Signals Intelligence (SIGINT) operations onboard organic non-dedicated Marine Corps air, ground, and water borne platforms. The TPCS-MPC will be highly modular, mission configurable, multi-platform system incorporating plug-and-play technologies. The system will provide state-of-the-art, versatile air/ground/water borne SIGINT and EW support to the MAGTF through the use of lightweight, flexible mission equipment suites capable of detecting, identifying, locating, and exploiting current and emerging communications technologies, intercepting non-communication signals, and improving the system's geolocation accuracy.</p>									

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
<p>8. Tactical Remote Sensor System (TRSS-PIP) - TRSS is a suite of hand emplaced and air-delivered unattended sensors, ground relays, and sensor monitoring stations, which are used by the Intelligence Battalions, Ground Sensor Platoons (GSPs). It provides the MEF/MAGTF Commander with an organic capability to conduct unattended, all-weather, semi-covert, ground surveillance of distant areas within his Area of Operations (AO). Through the use of seismic, acoustic, magnetic, infra-red, and imaging sensors, this suite provides an additional surveillance capability of personnel and/or vehicular activity, during tactical pre-assault, assault and post assault operations. TRSS covers gaps in the overall intelligence collection effort and reduces the requirement to employ Marines behind enemy lines for extended periods of time.</p> <p>9. MAGTF Secondary Imagery Dissemination System (MSIDS) This is a program formerly known as Manpackable Secondary Imagery Dissemination System (MP SIDS). MSIDS is a digital imagery collection/transmission system employed by Reconnaissance (Recon) and Light Armored Reconnaissance (LAR) Marines. MSIDS consist of one base station and three outstations. The base station consists of a ruggedized laptop computer with data controller hardware/software and a printer for hard copy printout of collected images. The outstation consists of a basic digital still-photo camera, advanced digital still-photo camera, night vision intensifier tube, and ruggedized ultra-portable laptop computer with data controller hardware/software. All equipment comprising MSIDS is Commerical-Off-The-Shelf (COTS) or Government Off The Shelf (GOTS). MSIDS works in conjunction with organic USMC/USN radios to transmit collected images from forward observation positions to intelligence/operations centers within the MAGTF.</p> <p>10. The Intelligence Analysis Systems (IAS) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence; it ensures that tactical intelligence is tailored to meet specific mission requirements. A Marine Expeditionary Force (MEF) IAS variant will also process signal intelligence.</p> <p>11. Global Command and Control System Integrated Imagery and Intelligence (GCCS I3) is a joint program that is designed to enhance the operational Commander's situation awareness and track management through the use of a standard set of integrated, linked tools and services that maximize commonality and interoperability across the tactical theater, and national communities. GCCS-I3 operates in joint and service specific battlespace and is interoperable, transportable, and compliant with the DoD mandated Common Operating Environment (COE).</p> <p>12. Technical Control Analysis Center (TCAC). The primary mission of the TCAC is to provide the Radio Battalions (RadBn) with an automated Signals Intelligence (SIGINT) processing, analysis, and reporting capability. The TCAC system is designed to receive collected intelligence from tactical, theater and National level producers and provide a multi-source fused intelligence production capability to support the Marine Air Ground Task Force (MAGTF) commander via the Intelligence Analysis System (IAS), as well as the National Security Agency (NSA) and other National consumers.</p> <p>13. Intelligence Broadcast Receiver (IBR) provides Marine tactical commanders access to National level Near Real-Time intelligence data provided over the Integrated Broadcast Service. IBR is employed across the MAGTF echelons through the following Host Systems; Intelligence Analysis System; Tactical Air Operations Center; Technical Control and Analysis Center; Tactical Air Command Center; Joint STARS Common Ground Station; Tactical Electronic Reconnaissance Processing and Evaluation System and Common Air Command and Control Systems and Joint Stars Work Station.</p> <p>14. Intelligence System Readiness (ISR) - provides timely and targeted solutions that enable the MAGTF Commander to accomplish the mission by rapid technology insertion, quick response training, logistics and provid interim support to mission lessential legacy systems that are not otherwise supported through the POM process. By utilizing the Field User Evaluation (FUE) Process, the ISR program enhances the Marine Corps Intelligence Architecture by mitigating operational shortfalls through Commerical-Off-The-Shelf (COTS), Government-Off-The-Shelf (GOTS) and Non-Developmental Item (NDI) solutions. In this way, ISR provides proof-of-concept prototypes and focused Research and Development (R&D) efforts to support the Marine Corps Intelligence Architecture and shorten the time required to fill gaps and field sytems. The ISR program Team also trains Marines to maximize new systems and capabilities.</p> <p>15. Trojan Spirit II - Two programs TROJAN SPIRIT II and TROJAN SPIRIT LITE are merging into a single program called TROJAN SPIRIT. TROJAN SPIRIT is a SHF multi-band satellite communications terminal, available in either HMMWV-mounted or transit case configuraion, that provides dedicated tactical communications capacity at the TS/SCI and Secret Collateral levels to USMC intelligence units. TROJAN SPIRIT terminals provide connectivity into JWICS, NSANET and SIPRNET via the TROJAN Network Control Center.</p> <p>16. DCGSI - Distributed Common Ground/Surface System-Marine Corps, formerly known as Distributed Common Ground/Surface-Integration (DCGS-I), is a collection of Service Systems that will contribute to joint and combined warfighter needs for ISR support, with the Global Information Grid (GIG) providing unconstrained communications circa 2010 to support the Department of Defense (DoD) Intelligence, Sureveillance and Reconnaissance (ISR) Enterprise end-state. The DCGS Integrated Backbone (DIB) is the architecture that will tie the Service DCGS systems together into one Family of Systems (FOS). The DIB will provide the tools, standards, architecture, and documentation for the DCGS community to achieve a Multi-Intelligence (Multi-INT) (e.g. Imagery Intelligence (IMINT), Signal Intelligence (SIGINT), Measurement/Measuring and Signature Intelligence (MASINT), Counterintelligence/Human Intelligence (CI/HUMINT)), network centric environment with the interoperability to afford individual nodes' access to the information needed to execute their respective missions. The Marine Corps will conduct DIB integration reseach and development to meet a congressionally mandated implementation deadline.</p>		

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems		PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems	
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.024	0.034	0.028	0.035
RDT&E Articles Qty				
CIHEP: Engineering, Integration and Technical support for technical refresh and update of program hardware/software upgrades.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.074	0.081	0.091	0.091
RDT&E Articles Qty				
CIHEP: Program Management Support for the technical refresh and update of program hardware/software upgrades.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.620	0.000	0.000	0.000
RDT&E Articles Qty				
COBRA: NAVSEA Technical and Contractual Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.299	0.000	0.000	0.000
RDT&E Articles Qty				
COBRA: Engineering and Technical Development, Platform Integration Services				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.120	0.000	0.000	0.000
RDT&E Articles Qty				
COBRA: MCSC Program Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.630	0.000	0.000	0.000
RDT&E Articles Qty				
COBRA: SD&D Contract, Northgrup Grumman, System Development, Spiral A.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.439	1.513	1.567	1.588
RDT&E Articles Qty				
GCCS-I3: Operational system development. Funding for this effort in FY02 and FY03 is provided under Project C2270 of this Program Element (PE).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.326	0.504	0.574	0.593
RDT&E Articles Qty				
IAS MOD KIT: Critical improvements to GCCS-I3 Intelligence Support software for USMC requirements. Funding for this effort in FY02 and FY03 is provided under Project C2270 of this PE.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.144	0.057	0.000	0.000
RDT&E Articles Qty				
IAS MOD KIT: Joint interoperabilby assessment and documentation. Funding for this effort in FY02 is provided under Project C2270 of this PE.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.358	0.431	0.460	0.445
RDT&E Articles Qty				
IAS MOD KIT: Software modifications to support USMC joint interoperability. Funding for this effort in FY03 is provided under Project C2270 of this PE.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems	
Accomplishment/Effort Subtotal Cost	0.200	0.000	0.000	0.000
RDT&E Articles Qty				
IAS MOD KIT. Perform trade study for the IOS server, MEF IAS client and IOW laptop.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.811	0.929	1.040	1.000
RDT&E Articles Qty				
IBR: Engineering and technical service support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.049	0.068	0.097	0.087
RDT&E Articles Qty				
IBR: Contract and Program Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.140	0.000	0.000	0.000
RDT&E Articles Qty				
IBR: Logistic and Training Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.340	0.299	0.275
RDT&E Articles Qty				
ISR: Program Management and Technical Support for the ISR Program.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.406	0.422	0.366
RDT&E Articles Qty				
ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.308	0.295	0.295
RDT&E Articles Qty				
ISR: System Engineering support for the ISR Testing and Training Center.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.304	0.261	0.186	0.259
RDT&E Articles Qty				
JSTARS: Engineering and technical support for development and integration of client software that will reside on existing MAGTF system and utilize JSTARS data.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.433	0.000	0.186	0.521
RDT&E Articles Qty				
JSTARS: Future MTI capability into JSTARS ground elements.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.108	0.279
RDT&E Articles Qty				
JSTARS: Common Data Link Capability.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems		
Accomplishment/Effort Subtotal Cost	0.000	0.389	0.000	0.221	
RDT&E Articles Qty					
JSTARS: Future MTI Sensor capability.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.084	0.073	0.083	
RDT&E Articles Qty					
JSTARS: IPv6 integration research.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.441	0.803	0.580	0.710	
RDT&E Articles Qty					
JSIPS-TEG: Development and integration of enhanced TEG/TEG-RWS functionality to include SCI capability.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.100	0.225	0.300	0.371	
RDT&E Articles Qty					
JSIPS-TEG: Development and integration of required upgrades/interfaces to accommodate emerging airborne imagery sensor.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.177	0.157	0.090	0.080	
RDT&E Articles Qty					
JSIPS-TEG: Develop, maintain and improve Precision Targeting software.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.086	0.130	
RDT&E Articles Qty					
JSIPS-TEG: Development of MTI/MTIX interfaces to include potential merger of current JSTARS/CGS capabilities					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.412	0.198	0.104	0.171	
RDT&E Articles Qty					
JSIPS-TEG: Development and integration of video capture and exploitation capability.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.062	0.081	0.138	0.183	
RDT&E Articles Qty					
JSIPS-TEG: Development and integration of mandated DCGS/DIB interfaces and communication architectures.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.100	0.094	
RDT&E Articles Qty					
JSIPS-TEG: Development of man-portable and reduced form-factor Comon Data Link (CDL) capability.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.829	0.738	0.492	0.563	
RDT&E Articles Qty					
JSIPS-TEG: Engineering/technical management and Infrastructure/Team IMINT shared costs.					

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.084	0.100
RDT&E Articles Qty				
JSIPS-TEG: Development and integration of mandated Joint interoperability and architectures to include IPv6, GIG and others.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.245	0.084	0.147	0.151
RDT&E Articles Qty				
MSIDS: Engineering and technical support for product development of program hardware and software refresh.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.092	0.059	0.059
RDT&E Articles Qty				
MSIDS: Program Management and technical support for product development of program hardware and software refresh.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.061	0.041	0.041
RDT&E Articles Qty				
MSIDS: Program Management and technical support for Technical and Evaluation of program refresh.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.819	0.892	0.912	1.511
RDT&E Articles Qty				
TCAC: Software development keeping TCAC with COE 4.X and future releases.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	2.234	3.253	3.429	3.225
RDT&E Articles Qty				
TENCAP: Program support and management; evaluate national intelligence data systems for MAGTF applicability.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.089	0.232	0.506	0.395
RDT&E Articles Qty				
TENCAP: Technical assessments of emerging national data dissemination capabilities.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.015	0.015	0.015
RDT&E Articles Qty				
TENCAP: Training and education efforts by providing the Fleet Marine Force with TENCAP simulation, visualization, and data receipt and dissemination capabilities.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.280	0.300	0.000	0.335
RDT&E Articles Qty				
TENCAP: Evaluate the utility of emerging exploitation, automated and manual target recognition and detection tools.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.277	0.343	0.354	0.357
RDT&E Articles Qty				
TPC: Contractor Support for Integration and Re-engineering Support				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems		PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.474	0.000	0.707	1.000
RDT&E Articles Qty				
TPCS-MPC: EDM Design.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.700	0.500
RDT&E Articles Qty				
TPCS-MPC: System development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.300	0.500
RDT&E Articles Qty				
TPCS-MPC: Training development and test support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	2.683	3.176	0.600	0.300
RDT&E Articles Qty				
TPCS-MPC: Program support and management.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.499
RDT&E Articles Qty				
TPCS-MPC: Contractor advisory assistance service.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.300	0.700
RDT&E Articles Qty				
TPCS-MPC: Operational Test and Evaluation (OT&E).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.059	0.161	0.175	0.000
RDT&E Articles Qty				
TRSS-PIP: Logistic and Admin support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.018	0.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Development of configuration utility for RSMS software.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.353	0.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Software development of HHPM and Low Cost Imager; Improved Air Delivered Sensor (IADS) II; Encoder Transmitter Unit (ETU); Windows 2000 migration; and RSMS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.589	0.616	0.700	0.750
RDT&E Articles Qty				

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		February 2005
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems
TRSS-PIP: Engineering support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.965	2.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Development of Unattended Ground Miniaturized Sensors (UGMS) and AADS electronic components.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.600	0.100	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Air Certification of Advanced Air Delivered Sensor (AADS) store.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.914	1.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Software Development of AADS and UGMS Monitoring System.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	2.453	2.916	0.243
RDT&E Articles Qty				
TRSS-PIP: Development of Increment IV and software efforts				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.500	0.000
RDT&E Articles Qty				
TRSS-PIP: Support IOT&E and Increment II efforts.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.420	0.422
RDT&E Articles Qty				
TROJAN SPIRIT: Development of P3I upgrades.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.382	1.131
RDT&E Articles Qty				
DCGS-MC - USMC DCGS Integrated Backbone (DIB).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.382	1.131
RDT&E Articles Qty				
DCGS-MC - Application Interface (API) and Application Process Development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.583	0.517
RDT&E Articles Qty				
DCGS-MC - Engineering and Technical Services.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.497	0.118

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDTE, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems	
RDTE Articles Qty				
DCGS-MC - Studies, analysis and evaluation.				
(U) Total \$	<u>19.677</u>	<u>22.299</u>	<u>27.025</u>	<u>22.440</u>

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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev			0206313M Marine Corps Communication Systems				C2272 Intelligence C2 Systems					
(U) PROJECT CHANGE SUMMARY:			FY2004	FY2005	FY2006	FY2007						
(U) FY 2005 President's Budget:			17.759	32.294	27.668	20.964						
(U) Adjustments from the President's Budget:												
(U) Congressional/OSD Prog Reduction								-9.700				
(U) Congressional Rescissions												
(U) Congressional Increases												
(U) Reprogrammings			1.934		0.134	2.163						
(U) SBIR/STTR Transfer												
(U) Minor Affordability Adjustment			-0.016	-0.295	-0.777	-0.687						
(U) FY 2006 President's Budget:			19.677	22.299	27.025	22.440						
CHANGE SUMMARY EXPLANATION:												
(U) Funding: See Above.												
(U) Schedule: Not Applicable.												
(U) Technical: Not Applicable.												

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communication Systems				C2272 Intelligence C2 Systems					
PMC BLI 474700 Intell Support Eq	CIHEP	1.299	1.483	1.503	1.601	1.761	1.862	1.935	1.970	Cont	Cont
PMC BLI 474700 Intell Support Eq	DCGSI	0.000	0.000	1.374	3.240	0.529	0.612	6.203	0.574	Cont	Cont
PMC BLI 474700 Intell Support Eq	JSIPS	2.778	1.014	3.586	5.280	2.049	1.283	1.813	0.299	0.000	18.102
PMC BLI 474700 Intell Support Eq	TPCS	0.000	6.335	8.056	7.771	6.000	0.301	0.000	0.000	0.000	28.463
PMC BLI 474700 Intell Support Eq	MSIDS	1.002	2.846	1.702	1.697	1.762	1.718	1.757	1.794	Cont	Cont
PMC BLI 474700 Intell Support Eq	IBR	1.451	3.531	1.396	0.401	0.420	0.422	0.429	0.434	Cont	Cont
PMC BLI 474700 Intell Support Eq	TPC	2.792	0.571	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.363
PMC BLI 474700 Intell Support Eq	RREP	1.100	0.000	4.209	0.034	1.019	5.191	0.100	1.294	Cont	Cont
PMC BLI 474700 Intell Support Eq	TSCM	2.146	0.000	1.222	0.000	1.323	0.000	1.448	0.000	Cont	Cont
PMC BLI 474900 MOD KITS Intell	IAS MOD Kit	1.486	1.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.835
PMC BLI 465200 Mod Kits	IAS MOD Kit	0.000	0.000	3.935	7.989	2.605	1.501	2.730	1.753	Cont	Cont
PMC BLI 474900 Mod Kits Intell	TCAC	0.626	1.539	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.165
PMC BLI 465200 Mod Kit	TCAC	0.000	0.000	0.933	3.904	0.945	1.127	0.000	0.772	Cont	Cont
PMC BLI 474900 Mod Kits Intell	JSTARS	3.192	5.582	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.774
PMC BLI 465200 Mod Kit	JSTARS	0.000	0.000	4.554	4.671	11.471	1.633	1.506	2.540	Cont	Cont
PMC BLI 474900 Mod Kits Intell	TERPES	2.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.493
PMC BLI 465200 Mod Kit	TERPES	0.000	0.000	2.982	0.000	3.182	0.000	0.000	0.000	0.000	6.164
PMC BLI 474900 Mod Kits Intell	ISR	0.000	1.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.044
PMC BLI 465200 Mod Kit	ISR	0.000	0.000	4.280	4.316	4.462	4.420	4.553	4.651	Cont	Cont
PMC BLI 463300 Radio Systems	TROJAN LITE	0.401	4.907	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.308
PMC BLI 474700 Intell Support Eq	TROJAN SPIRI	0.000	0.000	7.696	3.094	4.011	0.656	0.108	0.113	Cont	Cont

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		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
<p>(U) Related RDT&E:</p> <p>(U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II)</p> <p>(U) PE 0604270A (Intelligence and Electronic Warfare Common Sensor (IEWCS), TACJAM-A)</p> <p>(U) PE 0305885G (Tactical Cryptologic Program)</p> <p>(U) PE 0603730A (Tactical Surveillance System - Advanced Development), Army TENCAP, Project D560</p> <p>(U) PE 0603766A (Tactical Electronic Surveillance System - Advanced Development), Army TENCAP, Project D907</p> <p>(U) PE 0604740A (Tactical Surveillance System - Engineering Development), OSD TENCAP, Project D662</p> <p>(U) PE 0902398M (United States Special Operations Command), Chariot Program</p> <p>(U) PE 0605867N (SEW Surveillance/Reconnaissance Support), Project Z1034</p> <p>(U) PE 0206313M (Marine Corps Communication Systems), Project C9273</p> <p>(U) ACQUISITION STRATEGY JSTARS: JSTARS will utilize ongoing Army and Navy JSTARS contracts for development of client software, future CDL, MTI and MTI Sensor capabilities. IPv6 research will be conducted in conjunction with other services and agencies. Incremental Development Plan (IDP) efforts will continue to the JSTARS software baseline. SPAWAR-Charleston, SC will oversee the integration and testing of these development efforts, ensuring USMC Command, Control, Communications, Computers and Intelligence (C4I) architecture capability. On-site contractor logistical support will be provided through the General Dynamics Intelligence, Information Command and Control, Equipment and Enhancements (ICE2) Equipment Logistics Support Contract out of Warner-Robbins Air Force Base, GA. Post Deployment Software Support (PDSS) will be provided through the Communications-Electronics Command (CECOM), Ft Monmouth, NJ and SPAWAR-Charleston, SC. Surveillance Control Data Link (SCDL) antenna and Ground Data Terminal (GDT) support will be through Cubic Defense Systems, San Diego, CA, via a General Dynamics support contract.</p> <p>(U) ACQUISITION STRATEGY COBRA: COBRA System Development, Test and Demonstration based upon a competitive, multi-year, CPFF/CPIF contract awarded to Northrop Grumman 4Q 2001. Production will be FFP. Technology insertion will add objective capabilities as they are matured and integrated by other DOD organizations.</p> <p>(U) ACQUISITION STRATEGY JSIPS TEG: The TEG Program Office leverages the advantages of its multi-service common software baseline and inherent Joint service interoperability. Development and acquisition is divided between three prime contractors: Northrop Grumman Electronic Systems, Baltimore, MD (NGB) (through a classified contract); Space and Naval Warfare Systems Center, Charleston, SC (SSCC), and MTC Services Corporation. The MTC-operated Integrated Team Solutions Facility (ITSFAC) provides facilities to conduct integration, interoperability, and security certification and accreditation testing of USMC intelligence systems, system training, and program management support.</p> <p>(U) ACQUISITION STRATEGY TPCS: TPCS, the ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI. These technology insertions and product improvements will ensure the Radio Battalions maintain cutting edge technologies and collection capabilities.</p> <p>(U) ACQUISITION STRATEGY TRSS: The TRSS are typically Non-Developmental Item (NDI) integration efforts, making maximum use of the efforts of hardware and software initially developed by other DoD organizations and programs. The initial phases of each Increments are cost-plus fixed-fee efforts, while the production phase, which encompasses the production, fielding, training and initial support of the systems, are firm-fixed price efforts.</p> <p>(U) ACQUISITION STRATEGY TENCAP: Work will be led in-house. Necessary contractor support will be acquired using already existing contracts.</p> <p>(U) ACQUISITION STRATEGY CIHEP: CIHEP will use existing 8A contractor, Action Systems, the developer of the original system for test, evaluation and integration of planned refresh items for the ADP and Imagery Module. US Army IMA will be used for test, evaluation, and integration of planned refresh items for the TSS, Audio and Miscellaneous modules. CIHEP will coordinate acquisitions of communications equipment with PM Comm for planned upgrades to the Communications Module.</p> <p>(U) ACQUISITION STRATEGY MSIDS: A complete refresh of systems commenced in 3QTR FY02 and reached Full Operational Capability (FOC) in 2QTR FY03. Subsequent "increment refreshes" are under way in order to keep the systems from becoming unreliable and unsupportable. The increment refresh approach will effectively leverage technological advances. Each increment of upgrades will refresh 1/3 of the fielded components.</p> <p>(U) ACQUISITION STRATEGY GCCS-I3: This program promotes and ensures interoperability among USMC Intelligence Systems. Engineering and technical support is provided to PM Intel systems integration efforts for incorporation of the COE and GCCS-I3 software baseline. An Intelligence Integration Facility has been established at the Integrated Team Solution Facility. As such, this facility will be used as the hub for the entire integration effort of the GCCS-I3 initiative. The program is funded for five years beginning in FY02 and, as it is not a procurement effort, there are no life cycle or acquisition phases for which the Marine Corps is responsible.</p>		

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
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<p>(U) ACQUISITION STRATEGY TCAC: The acquisition of components for the TCAC will maximize the use of existing equipment, NDI/COTS/GFE equipment/software. The integration effort for TCAC hardware components will be accomplished under the control of the SSA, MCSC. Software integration and support will be accomplished by contractors under the control of the Project Officer. These activities report to and are directed by the Program Manager, Intelligence Systems, Marine Corps Systems Command (MARCORSYSCOM). Maintenance support will be managed by MARCORLOGBASES Albany and MCSC, Albany and through separate contractual agreements.</p> <p>(U) ACQUISITION STRATEGY IBR: In house contracts will be used to conduct engineering studies and test and evaluation activities associated with the Marine Corps implementation of the Integrated Broadcast Service, Common Message Format, ENTR integration and test and evaluation.</p> <p>(U) ACQUISITION STRATEGY TPC: The TPC program will reach Full Operational Capability in FY05 with the fielding of TPC to the Marine Corp Intelligence Activity. The TPC will refresh and upgrade the existing TPC equipment as technology advances. As new technology emerges, the current fielded systems will need incremental hardware and software refreshes to sustain operational requirements and to meet the ORD requirement of compliance with the NGA US Imagery and Geospatial Information System. The TPC program uses existing Government contracts for hardware/software development and integration. Full-time contractor support is provided through the Commercial Enterprise Omnibus Support Services (CEOs) contract. Additionally full time engineering and integration support is provided by Northrop Grumman Information Technology TASC through the Information Technology Omnibus Procurement II (ITOP II) contract under the auspices of the MCSC Information Technology Modernization 2000 (ITM2K) Project Office.</p> <p>(U) ACQUISITION STRATEGY ISR: This program seeks to support a wide range of technology solutions based on the requests received from the Operating Forces and/or PM Intelligence Program of Record. The request must require solution evaluation beyond merely acquisition to be recommended as an ISR candidate. Each request will be validated by the ISR team and approved by the Project Officer and PM Intel before solution evaluation begins. The ISR program will use COTS/GOTS/NDI solutions to the greatest extent possible.</p> <p>(U) ACQUISITION STRATEGY IAS: The IAS program uses existing Government contracts for hardware and software development and integration. The system is comprised primarily of Commercial Off-the-Shelf (COTS) and Government Off-The-Shelf (GOTS) equipment.</p> <p>(U) ACQUISITION STRATEGY TROJAN SPIRIT: Procure and continuously improve USMC TROJAN SPIRIT systems to meet evolving Marine Corps operational needs while maintaining interoperability with the Army TROJAN Network and maintaining, as closely as practical, configuration common to the Army TROJAN SPIRIT systems.</p> <p>(U) ACQUISITION STRATEGY DCGSI: The Marine Corps DCGS-MC project officer will leverage off of the USAF DCGS 10.2 Research, Development Test and Evaluation (RDT&E) effort and focus on the development of the DCGS Integrated Backbone (DIB) for the DCGS-MC. Additionally, the DCGS-MC will leverage off of MAGTF Legacy system DIB compliance efforts.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>MANPACK SIDS (MP SIDS)</p> <p>FY 04 Integrity Data Inc (IDI), Colorado Springs, Colorado. Provide funds for integration and sustainment support. Northrop Grumman Information Technology (NGIT), Stafford, VA Provide funds for engineering and program management support.</p> <p>FY 05 Integrity Data Inc (IDI), Colorado Springs, Colorado. Continue to provide funds for integration and sustainment support. Northrop Grumman Information Technology (NGIT), Stafford, VA Continue to provide funds for engineering and program management support.</p> <p>FY 06 Integrity Data Inc (IDI), Colorado Springs, Colorado. Continue to provide funds for integration and sustainment support. Northrop Grumman Information Technology (NGIT), Stafford, VA Continue to provide funds for engineering and program management support.</p> <p>FY 07 Integrity Data Inc (IDI), Colorado Springs, Colorado. Continue to provide funds for integration and sustainment support. Northrop Grumman Information Technology (NGIT), Stafford, VA Continue to provide funds for engineering and program management support.</p>		

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INTELLIGENCE BROADCAST RECEIVER (IBR) FY 04 NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA Provide funds for Engineering and Program management support. COMPUTER SCIENCE CORPORATION (CSC), Woodbridge, VA Provide funds to MDA Technologies for IBS Common Message format implementation assessment. FY 05 COMPUTER SCIENCE CORPORATION (CSC), Woodbridge, VA Provide funds to MDA Technologies for IBS Common Message format implementation assessment and Engineering and technical management support. FY 06 COMPUTER SCIENCE CORPORATION (CSC), Woodbridge, VA Provide funds to MDA Technologies for IBS Common Message format implementation assessment, IBR to JTRS transition assessment and engineering and techical management support. FY 07 COMPUTER SCIENCE CORPORATION (CSC), Woodbridge, VA Provide funds to MDA Technologies for IBS Common Message format implementation assessment and Engineering and technical management support.		
INTELLIGENCE ANALYSIS SYSTEM (IAS) FY04 SPAWAR, CHARLESTON, S.C. Provide funds for development, joint interoperability, assessment and documentation and joint tactical terminal integration. FY04 Navy Systems Management Activity (MTC, Stafford, VA). Provide funds for Integration and hardware upgrade study. FY05 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. FY05 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study. FY06 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. FY06 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study. FY07 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. FY07 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study.		
INTELLIGENCE SYSTEM READINESS (ISR) FY 04 - No Funding FY 05 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC Services Corporation, Stafford, VA) - Provides funding for engineering, testing, evaluation and training support. Naval Operation Other Than War Technology Center (NOOTW-TC), Dahlgren, VA - Provide funding for new technology initiatives. FY 06 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC Services Corporation, Stafford, VA) - Provides funding for engineering, testing, evaluation and training support. FY 07 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC Services Corporation, Stafford, VA) - Provides funding for engineering, testing, evaluation and training support.		
TEAM PORTABLE COLLECTION SYSTEM - MULTI-PLATFORM CAPABLE (TPCS-MPC) FY04 MCOTEA. Provide Operational testing of the TPCS-MPC Ground/Team system. SPAWAR, Charleston, S.C.. Provide funds for prime system integrator for TPCS-MPC EDM. COMPUTER SCIENCE CORP, Dumfries, VA Funds provided for SETA support for Configuration Management (CM). TITAN, Dumfries VA Funds provide Contractor Engineering Technical Support (CETS) at RadBn for training support. MCSC (Mainstream Corp), Provide funds for development of the Lightweight Multi-Fuel Generator SBIR program. FY05 NSMA (MTC), Stafford, VA, Provide funds for program management and engineering support services MCSC, Quantico, VA, Provide payback funds to PG-10 FY06 SPAWAR, CHARLESTON, S.C. Provide funds for prime systems integrator for TPCS-MPC EDM. MCOTEA. Provide Operational testing of the TPCS-MPC Ground/Team system. NSMA (MTC), Stafford, VA, Continue to provide funds for program management and engineering support services FY07 SPAWAR, CHARLESTON, S.C. Provide funds for prime systems integrator for TPCS-MPC EDM. MCOTEA. Provide Operational testing of the TPCS-MPC Ground/Team system. NSMA (MTC), Stafford, VA, Continue to provide funds for program management and engineering support services		

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RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
GLOBAL COMMAND AND CONTROL SYSTEM INTEGRATED IMAGERY AND INTELLIGENCE (GCCS I3)		
FY 04 MTC Services Corporation (MTC) Stafford, VA. Provide funds for Engineering and Program support services. Austin Information System (AIS), Austin, TX. Provide funds for System Integration and inoperability with US Army Intelligence System (ASAS), ASAS-Lite, etc..		
FY 05 MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. Austin Information System (AIS), Austin, TX. Continue to provide funds for System Integration and inoperability with US Army Intelligence System (ASAS), ASAS-Lite, etc..		
FY 06 MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. Austin Information System (AIS), Austin, TX. Continue to provide funds for System Integration and inoperability with US Army Intelligence System (ASAS), ASAS-Lite, etc..		
FY 07 MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. Austin Information System (AIS), Austin, TX. Continue to provide funds for System Integration and inoperability with US Army Intelligence System (ASAS), ASAS-Lite, etc..		
COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA)		
FY 04 NAVAL SEA WARFARE COMMAND (NSWC), Panama City, FL Provide funds for program and technical support. NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Melbourne, FL Provide funds system engineering and development of Spiral A. MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for Program and technical support.		
FY 05 NAVAL SEA WARFARE COMMAND (NSWC), Panama City, FL Continue to provide funds for program and technical support. NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Melbourne, FL Continue to provide funds system engineering and development of Spiral A MARCORSYSCOM, (MCSC), Quantico, VA Continue to provide funds for Program and technical support.		
TOPOGRAPHIC PRODUCTION CAPABILITY (TPC)		
FY 04 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to Northrop Grumman Information Technology, TASC,for integration and re-engineering support. Feb 04		
FY 05 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to Northrop Grumman Information Technology, TASC,or integration and re-engineering support. Dec 04		
FY 06 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to TBD for sustained integration and re-engineering support. Dec 05		
FY 07 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to TBD for sustained integration and re-engineering support. Dec 06		
JOINT SURVEILLANCE TARGET ATTACK RADAR (JSTARS)		
FY 04 Space and Naval Warfare Systems Center (SPAWAR), Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development.		
FY 05 Space and Naval Warfare Systems Center (SPAWAR), Charleston, S.C. Continue to provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development.		
FY 06 Space and Naval Warfare Systems Center (SPAWAR), Charleston, S.C. Continue to provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development.		
FY 07 Space and Naval Warfare Systems Center (SPAWAR), Charleston, S.C. Continue to provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development.		

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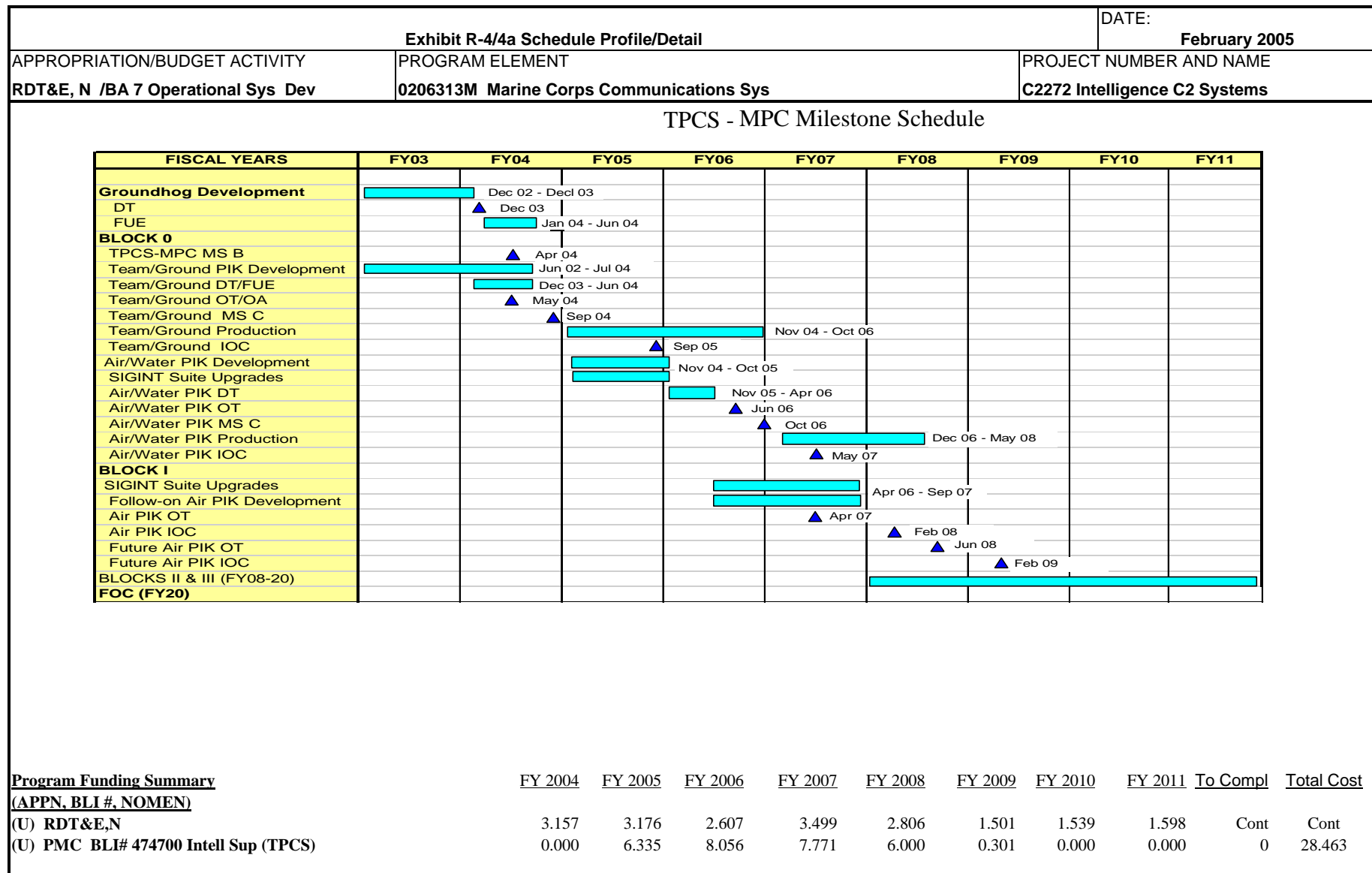
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RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
JOINT SERVICE IMAGERY PROCESSING SYSTEM-TACTICAL EXPLOITATION GROUP (JSIPS-TEG)		
FY04 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Provide funds for integration, engineering, program management and contractual support.		
ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.		
NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Provide funds for engineering and technical management support.		
FY05 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Provide funds for integration, engineering, program management and contractual support.		
ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.		
NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Provide funds for engineering and technical management support.		
FY06 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Provide funds for integration, engineering, program management and contractual support.		
ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.		
NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Provide funds for engineering and technical management support.		
FY07 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Provide funds for integration, engineering, program management and contractual support.		
ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.		
NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Provide funds for engineering and technical management support.		
TACTICAL CONTROL AND ANALYSIS CENTER (TCAC)		
FY 04 TITAN, Fairfax, VA. Provide funds to develop additional analytical tools, integrate software changes and migrate software baseline to COE 4.x and beyond. Integrate new hardware/software into existing systems. Oct 03		
FY 05 TITAN, Fairfax, VA. Provide funds to develop additional analytical tools, integrate software changes and migrate software baseline to COE 4.x and beyond. Integrate new hardware/software into existing systems. Oct 04		
TACTICAL REMOTE SENSOR SYSTEM (TRSS)		
FY04 MODERN TECHNOLOGIES (MTC), Springfield, VA. Funds provided for logistical and admin support to R&D efforts.		
FY04 SPAWAR, Charleston, SC. Funds provided for development of configuration utility for RSMS software.		
FY04 OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Funds provided for software development of HHPM, Imager, IADS II, ETU II, Windows 2K, and RSMS 3.1.		
FY04 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Funds provided to MTC Services Corp. for engineering and integration support to R&D efforts.		
FY04 AIR FORCE ELECTRONIC SYSTEMS CENTER (ESC), Hanscom AFB, MA. Funds provided for development of AADS hardware.		
FY04 NAVAIR, Patuxent River, MD. Funds provided for air certification of AADS.		
FY05 MARCORSYSCOM, Quantico, VA. Funds provided to CEOss for ALA and Engineering support to R&D efforts.		
FY05 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Funds provided for engineering and integration support to R&D efforts.		
FY05 AIR FORCE ELECTRONIC SYSTEMS CENTER (ESC), Hanscom AFB, MA. Funds provided for development of AADS hardware.		
FY05 NAVAL SURFACE WARFARE CENTER, Crane Division, Crane, IN. Funds provided for development of UGMS.		
FY05 NAVAIR, Patuxent River, MD. Funds provided for air certification of AADS.		
FY05 OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Funds provided software development AADS and UGMS.		
FY05 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided for development of Increment IV efforts.		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems
<p>TACTICAL REMOTE SENSOR SYSTEM (TRSS) FY06 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Funds provided for engineering and integration support to R&D efforts. FY06 MARCORSYSCOM, Quantico, VA. Funds provided to CEOss for ALA and Engineering support to R&D efforts. FY06 OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Funds provided software development AADS and UGMS. FY06 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided for development of Increment IV efforts. FY06 MARCORSYSCOM, Quantico, VA. Funds provided for IOT&E of Increment III efforts. FY07 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Funds provided for engineering and integration support to R&D efforts. FY07 MARCORSYSCOM, Quantico, VA. Funds provided to CEOss for Engineering support to R&D efforts. FY07 OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Funds provided for software development of Increment IV efforts</p> <p>COUNTERINTELLIGENCE AND HUMAN INTELLIGENCE (HUMINT) EQUIPMENT PROGRAM (CIHEP) FY04 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC, Stafford, VA) - Funds provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY04 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to Northrop Grumman IT, Stafford VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY04 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support. FY05 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC, Stafford, VA) - Funds provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY05 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to Northrop Grumman IT, Stafford VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY 05 ACTION SYSTEMS, Las Cruces, NM. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software. FY06 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support for tech refresh and upgrade of program hardware and software. FY06 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC, Stafford, VA) - Funds provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY 06 ACTION SYSTEMS, Las Cruces, NM. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software. FY07 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support for tech refresh and upgrade of program hardware and software. FY07 NAVY SYSTEMS MANAGEMENT ACTIVITY, (MTC, Stafford, VA) - Funds provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software. FY 07 ACTION SYSTEMS, Las Cruces, NM. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software.</p> <p>TROJAN SPIRIT FY06 U.S. Army Cerdec I2WD, Ft Monmouth, NJ - Provide funds for P3I prototype, technical and Engineering support to include EOA, DT and OT. FY07 U.S. Army Cerdec I2WD, Ft Monmouth, NJ - Provide funds for P3I prototype, technical and Engineering support.</p> <p>DCGS-I FY06 USAF 10.2 Contract. Research and development of DCGS Integrated Backbone (DIB) software and integration into Marine Corps legacy systems. FY06 Integrated Teams Solution Facility, Stafford, VA Engineering and technical services, and conducting of studies, analysis and evaluation for DIB integration and integration support. FY07 USAF 10.2 Contract. Research and development of DIB software and integration into Marine Corps legacy systems. FY07 Integrated Teams Solution Facility, Stafford, VA Engineering and technical services, and conducting of studies, analysis and evaluation for DIB integration and integration support.</p>		

Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys					C2272 Intelligence C2 Systems						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TENCAP	Various	Titan	11.463	2.603	12/03	3.785	12/04	3.935	12/05	3.955	12/06	Cont	Cont	
TENCAP	TBD	TBD	0.685	0.000		0.015	12/04	0.015	12/05	0.015	12/06	Cont	Cont	
COBRA	RCP	NG,Melbourne	0.272	1.630	01/04							0.000	1.902	
TPCS	MPR	SPAWAR	2.335	1.928	04/04			1.407	11/05	1.500	11/06	Cont	Cont	
TPCS	RCP	MCC				2.000	01/05					0.000	2.000	
MSIDS	RCP	IDI		0.245	01/04	0.084	02/05	0.147	02/06	0.151	02/07	Cont	Cont	
CIHEP	RCP	Action Systems	0.127			0.020	11/04	0.028	11/05	0.020	11/06	Cont	Cont	
CIHEP	RCP	USAIMA		0.024	12/03	0.015	04/05			0.015	04/07	Cont	Cont	
CIHEP	RCP	NGIT	0.012			0.025	01/05	0.025	01/06	0.025	01/07	Cont	Cont	
CIHEP	RCP	MTC Service Corp	0.013			0.025	01/05	0.025	01/06	0.025	01/07	Cont	Cont	
CIHEP	RCP	MCSC	0.156	0.074	06/04	0.030	06/05	0.041	06/06	0.041	06/07	Cont	Cont	
TRSS-PIP	RCP	NAWC, Crane	3.366			0.000						0.000	3.366	
TRSS-PIP	RCP	ModernTC	0.509	0.059	03/04	0.000						0.000	0.568	
TRSS-PIP	RCP	OSEC	0.839	0.353	01/03	0.995	01/05	1.000	01/06	0.243	01/07	Cont	Cont	
TRSS-PIP	MIPR	ESC	0.615	1.965	02/04	0.396	11/04					Cont	Cont	
TRSS-PIP	MIPR	NAVAIR		0.600	03/04	0.053	02/05					0.000	0.653	
TRSS-PIP	MIPR	SPAWAR	0.044	0.018	03/04							0.000	0.062	
TRSS-PIP	RCP	NSMA (MTC)		0.352	06/04	1.810	01/05	0.500	01/06	0.525	01/07	Cont	Cont	
TRSS-PIP	RCP	MCSC		0.042	08/04	2.925	01/05	3.436	01/06			0.000	6.403	
TRSS-PIP	RCP	MCSC (CEOss)				0.000	01/05	0.355	01/06	0.225	01/07	Cont	Cont	
IBR	RCP	NGIT		0.140	03/04	0.000						0.000	0.140	
JSTARS	WR/MPR	SPAWAR		0.433	10/03	0.345	12/04	0.553	12/05	1.363	12/06	Cont	Cont	
JSTARS	RCP	MTC		0.304	01/04	0.389	01/05					0.000	0.693	
TROJAN SPIRIT	FFP	CERDEC		0.000				0.320	12/05	0.322	12/06	Cont	Cont	
DCGSI	RCP	NSMA (MTC)						1.080	12/05	0.635	12/06	Cont	Cont	
DCGSI	WR	USAF						4.764	11/05	2.262	11/06	Cont	Cont	
JSIPS - TEG	RCP	ASPO	0.970	0.361	03/04	0.572	02/05	0.785	02/06	0.902	02/07	Cont	Cont	
JSIPS - TEG	RCP	NSMA (MTC)	3.288	1.171	12/04	0.797	01/05	0.688	01/06	0.832	01/07	Cont	Cont	
JSIPS - TEG	WR	SPAWAR		0.489	10/03	0.833	11/04	0.501	11/05	0.668	11/07	Cont	Cont	
GCCS-I3	MPR	SPAWAR		0.024	08/04							0.000	0.024	
Subtotal Product Development			24.694	12.815		15.114		19.605		13.724		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev				0206313M Marine Corps Communications Sys				C2272 Intelligence C2 Systems						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
COBRA	RCP	CSS	3.617	0.620	10/03							0.000	4.237	
COBRA	RCP	various		0.419	12/03	0.000						0.000	0.419	
TPC	RCP	MCSC	0.694	0.267	02/04	0.343	12/04	0.354	12/05	01/00	12/06	Cont	Cont	
TPC	MPR	SPAWAR		0.010	07/04							0.000	0.010	
TPCS	RCP	MTC	0.561	0.202	06/04	1.176	01/05	0.900	11/05	01/00	11/06	Cont	Cont	
TPCS	RCP	CSC	2.168	0.263	12/03							0.000	2.431	
TPCS	RCP	NSWC		0.304	04/04							0.000	0.304	
TPCS	MIPR	MCOTEA		0.000				0.300	10/05	0.700	10/06	Cont	Cont	
TRSS	MIPR	MCOTEA		0.195	05/04							0.000	0.195	
TRSS	RCP	MCSC		0.000		0.065	09/05					0.000	0.065	
MSIDS	RCP	NGIT				0.092	01/05	0.059	01/06	0.059	01/07	Cont	Cont	
IAS MOD KIT	MPR	SPAWAR		0.581	10/03	0.735	10/04	0.748	01/06	0.751	01/07	Cont	Cont	
IAS MOD KIT	RCP	MCSC		0.089	11/03	0.057	12/04					0.000	0.146	
IAS MOD KIT	RCP	NSMA (MTC)		0.358	11/03	0.200	11/04	0.286	01/06	0.287	01/07	Cont	Cont	
GCCS I3	RCP	MTC		1.365	03/04	0.937	10/04	0.954	12/05	0.964	12/06	Cont	Cont	
GCCS I3	MPR	G2 Technology		0.050	08/04	0.576	10/04	0.613	12/05	0.624	12/06	Cont	Cont	
TCAC	RCP	NSMA (TITAN)		0.819	04/04	0.892	01/05	0.912	01/06	1.511	01/07	Cont	Cont	
IBR	RCP	CSC/MDA		0.811	04/04	0.929	12/04	1.040	12/05	1.000	12/06	Cont	Cont	
IBR	WR	SPAWAR		0.040	04/04	0.068	12/04	0.097	12/05	0.087	12/06	Cont	Cont	
IBR	RCP	MCSC		0.009	04/04							0.000	0.009	
ISR	RCP	NSMA (MTC)				1.054	01/05	1.016	01/06	0.936	01/07	Cont	Cont	
TROJAN SPIRIT	Allot	MCSC				0.000		0.020	01/06	0.020	01/07	Cont	Cont	
TROJAN SPIRIT	FFP	NSMA (MTC)				0.000		0.030	01/06	0.030	01/07	Cont	Cont	
Subtotal Support			7.040	6.402		7.124		7.329		7.626		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TPCS	RCP	TITAN	2.392							0.999	11/06	Cont	Cont	
TPCS	RCP	MCSC (Mainstream)		0.460	06/04								0.460	
TROJAN SPIRIT	MIPR	CERDEC		0.000				0.050	12/05	0.050	12/06		0.100	
Subtotal T&E			2.392	0.460		0.000		0.050		1.049		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MSIDS	RCP	NGIT				0.061	01/05	0.041	01/06	0.041	01/07	Cont	Cont	
Subtotal Management			0.000	0.000		0.061		0.041		0.041		Cont	Cont	
Remarks:														
Total Cost				19.677		22.299		27.025		22.440		Cont	Cont	



[illegible]

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2272 Intelligence C2 Systems

TROJAN SPIRIT LITE

FISCAL YEARS	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
MILSTONES										
P3I Increment 1	▲ ADM APR 01									
TROJAN LITE (7)		▲ Fielding Decision SEP 02								
TROJAN LITE (8)			▲ Fielding Decision AUG 03							
P3I Increment 2						▲ ADM OCT 05				
PROCUREMENT										
P3I Increment 1	▲ APR 01									
TROJAN LITE (7)		▲ JAN 02								
TROJAN LITE (8)			▲ JAN 03							
P3I Increment 2						▲	▲	▲	▲	▲
FIELDING										
P3I Increment 1 (includes X-										
TROJAN LITE (7)										
TROJAN LITE (8)										
P3I Increment 2										
IOC (TROJAN LITE)										
FOC (TROJAN LITE)										

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 To Compl</u>	<u>Total Cost</u>
(APPN, BLI #, NOMEN)									
(U) RDT&E,N	0.000	0.000	0.420	0.422	0.424	0.425	0.426	0.428	Cont Cont
(U) PMC BLI# 463300 Radio Systems	0.401	4.907	0.000	0.000	0.000	0.000	0.000	0.000	5.308
(U) PMC BLI# 474700 Intell Sup	0.000	0.000	7.696	3.094	4.011	0.656	0.108	0.113	Cont Cont

TROJAN SPIRIT	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
MILESTONES										
P31 Increment 1 Fielding Decision										
- TROJAN LITE (7) Fielding Decision	4Q									

Exhibit R-4/4a Schedule Profile/Detail										DATE:	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT						PROJECT NUMBER AND NAME			
RDT&E, N /BA 7 Operational Sys Dev		0206313M Marine Corps Communications Sys						C2272 Intelligence C2 Systems			
	- TROJAN LITE (8) Fielding Decision		4Q								
	P31 Increment 2 Fielding Decision					1Q					
	PROCUREMENT										
	P31 Increment 1 Fielding Decision										
	- TROJAN LITE (7) Fielding Decision	2Q									
	- TROJAN LITE (8) Fielding Decision		2Q								
	P31 Increment 2 Fielding Decision					1Q-----	-----	-----	-----	-----	1Q
	FIELDING										
	P31 Increment 1 Fielding Decision	4Q	-----	-----	-----3Q						
	- TROJAN LITE (7) Fielding Decision	4Q--1Q									
	- TROJAN LITE (8) Fielding Decision		4Q	-----3Q							
	P31 Increment 2 Fielding Decision					1Q-----	-----	-----	-----	-----	
	IOC (TROJAN LITE)	4Q									
	FOR (TROJAN LITE)			3Q							

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APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA-7 Operational Sys Dev

PROGRAM ELEMENT NUMBER AND NAME
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2273 Air Operations C2 Systems

COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Project Cost	94.592	93.339	87.444	48.374	35.601	21.611	23.485	25.901
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Air Operations C2 coordinates and plans Navy and Marine air combat operations and interfaces with joint and combined forces air operations. It also interfaces with fire support C2. The systems in this project are used to detect aircraft and missiles, process the detected information, deliver the processed information to the Advanced Tactical Air Command Central (ATACC), and conduct the air battle.

1. The Air Defense Communications Platform (ADCP) , deployed with the AN/TYQ-23(V)4, hosts the Joint Tactical Information Distribution System (JTIDS) terminal needed for Link 16 data and voice interoperability. In the standalone mode, when deployed with the AN/TPS-59(V)3 radar, the ADCP provides a capability for the missile detection and reporting mission of the TAOC.
2. The Aviaiton Radar (AN/TPS-59(V)3) is a "congressionally mandated" national asset. It is the only fielded ground-based sensor which can detect and track long range Air Breathing Targets (ABT) within 300 nautical miles, as well as Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles for 60 degrees and up to one million feet in elevation. Highly Expeditionary Long Range Air Surveillance Radar (HELRASR) is the modernization initiative to replace the AN-TPS 59 Radar.
3. The Common Aviation Command and Control System (CAC2S) will provide a common baseline of equipment, computer hardware, and software required to perform the mission of the Marine Air Command and Control System (MACCS). CAC2S will provide a capability that allows operators to integrate Marine aviation into joint and combined air/ground operations. CAC2S will provide the tools that perform aviation C2 planning and execution functions in a positive control environment.
4. The Composite Tracking Network (CTN), formerly known as Cooperative Engagement Capability (CEC), enables all CTN and CEC equipped, Anti-Air Warfare (AAW) weapons systems in a battle force to operate as a single, distributed AAW weapon system. This is accomplished providing timely sharing of fire control quality sensor data, correlated identification data, and AAW weapons management status. The sensor networking capability of CTN essentially allows forces to have a direct connection to the various sensors supported by forces throughout a battlefield enabling the development of a common understanding of the air situation. CTN consists of common processing units that interface with local and remote sensor data in order to develop a common track database and data communications pieces that enable the connectivity and networking of the sensors and processors.
5. The Critical Infrastructure will develop a new capability for video teleconferencing capability via service intranet capabilities.
6. The MACCS Sustainment consists of various command and control agencies designed to provide the Aviation Combat Element (ACE) commander with the ability to monitor, supervise and influence the application of Marine aviation assets in support of MAGTF operations. The MACCS Sustainment provides funding to keep these fielded systems ready, relevant and capable until their functions are replaced by the Common Aviation Command and Control System (CAC2S).
7. "SIAP is the product of fused, common, continual, unambiguous tracks of airborne objects within the surveillance area." The Joint Single Integrated Air Picture (SIAP) Systems Engineer Organization (JSSEO) will identify the most effective and efficient means to achieve a SIAP that satisfies the warfighter needs. The JSSEO is not limited to just material solutions in this effort; all aspects will be considered to produce the SIAP, including tactics, techniques and pcedures and changes to Service operations.
8. Theater Battle Management Core Systems (TBMCS) provides the commander the automated tools necessary to generate, disseminate, and execute the Air Tasking Order (ATO), as mandated by the Chairman, Joint Chiefs of Staff in July 1993. It is an evolutionary acquisition, allowing for the rapid development/fielding of hardware and software to meet today's rapidly advancing technology. It is fielded to all four Marine Tactical Air Command Squadrons (MTACS) and the supporting establishment with Marine Aviation Weapons and Tactics School (MAWTS) and the Battlestaff Training Facility (BSTF) sharing a system.
9. The Unit Operations Center (UOC) project develops and transitions two Command and Control Imperative Advanced Technology Demonstration (ATDs) (the Expeditionary Integrated Combat Operations Center) and the Joint Tactical Communications ((JT COMMs) ATDs) into various Marine Corps and Joint Engineering and Manufacturing Development (E&MD) efforts. UOC development efforts focus on: Cognitive Task Analysis (CTA); enhanced ergonomic physical design; evaluation of advanced multimedia hardware, integration and networking with advanced development communication systems; and advanced software development to support systems integration and advanced battlefield visualization concepts. UOC developments are tailored to support transition of software and hardware developments as PIPs to the established MAGTF C4I baseline. Unit Operations Center (UOC) will provide a facility and components for the integration of current and planned battlefield automation systems.

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0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME

C2273 Air Operations C2 Systems

It will be, in essence, a "system of systems" designed to optimize the positioning, interaction, and flow of information among the various staff agencies (G-2, G-3, Operations Directorate, etc.) and their automated information systems and between the unit and higher, adjacent or subordinate units or headquarters. The Marine Corps deploys Component/Joint Task Force (JTF/Marine Air Ground Task Force (MAGTF)) command elements throughout the world to fulfill operational requirements, often in joint/combined forces arenas. The UOC is designed in garrison and tactical versions. The tactical version is called the Combat Operations Center (COC) which is an outgrowth of the integrated (COC (ICOC), COC-Interim (COC(I), and the Enhanced COC (ECOC) developments over the last two years. The garrison version is called the Command Center (CC).

10. The Joint Combat Identification Evaluation Team (JCIET) is a superb opportunity to conduct quality assurance testing of service's systems operating in a Joint environment. It conducts assessments in a number of venues including : Military Operations in Urban Terrain (MOUT) exercises, Advanced Concept Technology Demos (ACTD), Joint Training exercises, Combined Armed Training Exercises (CAXs) and Weapons Tactics Instruction Events (WTIs). Its mission is to improve Tactics, Techniques and Procedures (TTP) across all Combat Identification mission areas. (It is not an acquisition program; therefore it does not have specific milestone dates.)

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.178	0.000	0.000	0.000
RDT&E Articles Qty				
ADCP: Tested and certified software enhancements.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	2.077	0.000	0.000
RDT&E Articles Qty				
AN/TPS-59 Sustainment : Develop Engineering Change Proposals for software improvements and Diminishing Manufacturing Sources issues.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.500	0.000	0.000
RDT&E Articles Qty				
AN/TPS-59 Sustainment : Development of Far Field radar Repeater to support system rebuilds at Barstow.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	3.240	4.037	4.382	3.985
RDT&E Articles Qty				
CAC2S: Program management support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	45.977	25.828	10.284	10.502
RDT&E Articles Qty				
CAC2S: SDD. Engineering Development Model (EDM) hardware and software development, design of host processing system, and conduct software integration of Joint mandated applications, developmental testing and evaluation and baseline stabilization.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	13.381	32.815	31.694	9.527
RDT&E Articles Qty				
CAC2S: System development, GFE, and testing in accordance with continued sensor interface/integration, communications interface/interoperability development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.040	0.050	0.289	0.326
RDT&E Articles Qty				
JCIET: Logistics support for JCIET exercise.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.500	0.500	1.000	1.000
RDT&E Articles Qty				
JCIET: Data and analysis for exercise.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.668	0.801	0.025	0.025
RDT&E Articles Qty				
JCIET: Program management support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.834	0.250	0.275	0.000
RDT&E Articles Qty				
CTN: Software development: Interface Design Document (IDD) development for CTN interfaces (sensor and C2).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	4.576	4.152	0.000	0.000
RDT&E Articles Qty				
CTN: Engineer Design Model hardware and software development and support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.919	0.405	0.300	0.454
RDT&E Articles Qty				
CTN: Testing and Evaluation: Developmental Testing. Operational assessment, and IOT&E support. Certification f CAC2S interface to CTN.testing support. Certification of CAC2S and CLAWS interfaces to CTN.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.530	0.430	0.464	0.511
RDT&E Articles Qty				
CTN: Program management support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	6.610	1.527
RDT&E Articles Qty				
CTN: System production (LRIP) and CAC2S interface support.				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.491	1.486	0.000	0.000
RDT&E Articles Qty				
CRITICAL INFRASTRUCTURE: VTC Coop Engineering.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	3.151	2.947	4.383	2.890
RDT&E Articles Qty				
MACCS SUSTAINMENT: Hardware obsolescence upgrades for the TAOM, SAAWF, TIU, MCIU, ADCP, CIS and CDLS.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.367	2.914	4.063	1.795
RDT&E Articles Qty				
MACCS SUSTAINMENT: Planned software sustainment for the TAOM, ADCP and CDLS.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	5.085	7.752	17.571	10.442
RDT&E Articles Qty				
SIAP: Service System Engineering support to Joint SIAP System Engineering Organization.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.778	0.000	0.000	0.000
RDT&E Articles Qty				
SIAP: Update MCTSSA SIE HWILT (AVN C2) hardware and software to reflect SIAP changes.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.200	1.115	1.250	1.300
RDT&E Articles Qty				
SIAP: Engineering and analysis for SIAP system engineer Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.174	0.300	0.300	0.325
RDT&E Articles Qty				
TBMCS: USMC TBMCS development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.100	0.169	0.188	0.191
RDT&E Articles Qty				
TBMCS: MCTSSA TBMCS software support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.090	0.200	0.214	0.225
RDT&E Articles Qty				
TBMCS: Program management support.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.100	0.075	0.075	0.077
RDT&E Articles Qty				
TBMCS: Test and Evaluation for TBMCS Upgrades Joint Interoperability.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	5.100	0.000	0.000
RDT&E Articles Qty				
UOC: Funding to be used for high proiorty GWOT				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	6.793	2.608	2.440	1.946
RDT&E Articles Qty				
UOC: Continue engineering and manufacturing development effort of production representative modules to include UOC Universal Communications Interface Module (UCIM).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.420	2.589	0.503	0.408
RDT&E Articles Qty				
UOC: Program Management Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	3.839	1.134	0.918
RDT&E Articles Qty				
UOC: Configuration analysis for CSSE, CE, and FICCS Unit Operations Centers. Support wireless technology upgrade,web-based training tool, and rotary generator.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	-9.600	0.000	0.000
RDT&E Articles Qty				
Execution Transaction Pending to restore funding				
(U) Total \$	<u>94.592</u>	<u>93.339</u>	<u>87.444</u>	<u>48.374</u>
(U) PROJECT CHANGE SUMMARY:	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>
(U) FY 2005 President's Budget:	94.832	99.834	81.526	105.786
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases		4.100		
(U) Reprogrammings	-0.020		7.996	-56.013
(U) SBIR/STTR Transfer	-0.220			
(U) Minor Affordability Adjustments		-10.595	-2.078	-1.399
(U) FY 2006 President's Budget:	94.592	93.339	87.444	48.374
CHANGE SUMMARY EXPLANATION:				
(U) Funding: The -\$15.694 for FY05 includes the -\$9.600 erroneously taken from this project for COBRA. A correction is pending.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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PROJECT NUMBER AND NAME

RDT&E, N/BA-7 Operational Sys Dev

0206313M Marine Corps Communications Sys

C2273 Air Operations C2 Systems

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC, BLI#464000, ADCP PIP	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
(U) PMC, BLI #465000, AN/TPS-59	0.000	0.000	5.626	6.882	6.239	6.435	4.873	2.815	Cont	Cont
(U) PMC, BLI #465100, AN/TPS-59	13.160	24.371	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.531
(U) PMC, BLI #464000, CAC2S	0.000	0.000	3.919	35.392	38.626	57.624	36.785	37.743	Cont	Cont
(U) PMC, BLI #464000, CEC/CTN	0.000	0.000	0.000	2.504	7.565	17.840	24.600	27.940	Cont	Cont
(U) PMC, BLI #464000, MACCS	3.850	6.790	5.514	1.892	1.476	1.776	6.423	1.222	Cont	Cont
(U) PMC, BLI #464000,TBMCS (CTAPS)	6.081	3.460	3.625	3.633	3.781	3.864	3.495	3.568	Cont	Cont
(U) PMC, BLI #419000, UOC	18.049	27.825	0.952	1.197	0.918	1.022	1.026	1.029	Cont	Cont

(U) D. ACQUISITION STRATEGY:

(U) **ADCP:** In support of the ADCP system, MACCS Sustainment has an In Service Engineering Agent (ISEA) relationship with Naval Surface Warfare Center (NSWC), Crane, IN. As part of the ISEA, Crane is tasked to develop, produce, and implement Engineering Change Proposals, or software modifications for the ADCP. Additionally, they host the ADCP website, conduct annual site visits, and provide services to the users via a Helpdesk.

(U) **AN/TPS-59 Radar:** The Program Office intends to address Diminishing Manufacturing Sources (DMS) issues by continuing with the Post Production Support Program (PPSP) started in POM 02 initiative, and they will also begin R&D efforts that will modernize the radar with advanced technology and performance capabilities. A Business Case Analysis (BCA) was completed which incorporated two independent obsolescence/DMS studies that identified critical components which will severely impact the system performance and readiness by FY07. Based upon the BCA, the program office intends to sustain 8 of the 11 systems. The refurbishing and sustaining of 8 systems will enable 3 active units (2 per MEF), and 1 reserve unit to have a system with current technology, extend system life cycle and lower the radars' overall operating cost. The remaining 3 systems will transition during the modernization effort.

(U) **CAC2S:** The SDD phase was implemented after the successful completion of the established PDRR phase exit criteria. The SDD phase includes the development and verification of the engineering development model representative of the basic common communications, sensor interface and processing, and display components. The SDD contract contains options for the Production and Deployment Phase (Phased Pricing Fixed Fee). The Production Phase will rely on available commercial items and other equipment meeting the open systems architecture requirement.

(U) **CRITICAL INFRASTRUCTURE:** The program will be executed under Government Works contract by evaluating proposals that will be compatible with DVS-G and service programs.

(U) **MACCS SUSTAINMENT:** The family of systems that comprise the MACCS Sustainment program include all of the currently fielded Air Command and Control assets. These include the Tactical Air Operations Module (TAOM), Communications Data Link System (CDLS), Sector Anti-Air Warfare Facility (SAAWF), Air Defense Communication Platform, Direct Air Support Central Airborne (DASCA), Direct Air Support Central Airborne System (DASCAS), TAOM Interface Unit (TIU), Multi-Channel Interface Unit (MCIU), Communication Interface System (CIS), Joint Tactical Information Distribution System (JTIDS), and Joint Range Extension (JRE).

(U) **CTN:** The USMC's CTN acquisition strategy is to participate in the USN's program procurement and testing, making necessary modifications to support the Marine Corps' requirement.

(U) **SIAP** is a systems engineering effort that will be utilized to reduce risk and increase interoperability for legacy and future C4ISR systems.

(U) **TBMCS:** TBMCS is an ACAT 1AC, USAF Program with joint interest/oversight. It was mandated by the Chairman, Joint Chiefs of Staff in July 93 for Air Tasking Order (ATO) Interoperability among all Services. The USMC will not be letting any competitive contracts for TBMCS, but following the USAF lead, utilizing USAF TBMCS contracts and fielding only the joint modules of TBMCS. As USMC unique requirements are identified and funded, they will be provided to the USAF (to include funding) for inclusion within TBMCS utilizing the USAF cost plus fixed fee contract.

(U) **UOC:** The UOC COC is a Competitively Awarded Contract for design (cost type) and Firm Fixed Price production options.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N/BA-7 Operational Sys Dev**0206313M Marine Corps Communications Sys****C2273 Air Operations C2 Systems****(U) E. Major Performers:****UNIT OPERATIONS CENTER (UOC)**

FY04 - FY07 General Dynamics Decision Systems, Scottsdale AZ. System development, demonstration, integration, test and evaluation. Apr 04.

FY05 - FY07 SPAWAR, Charleston SC. Support Services. Jan 05

COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S)

FY04 - FY07 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 04.

COMPOSITE TRACKING NETWORK (CTN)

FY04 - FY05 NSWC Crane, IN. Mobility platform integrator. Jan 04

FY04 - FY05 Lockheed Martin, Syracuse NY. Radar integration. Jan 04

CRITICAL INFRASTRUCTURE

FY04 SPAWAR, Charleston SC. Product Development. Mar 03.

MACCS SUSTAINMENT

FY04 - FY07 Northrop Grumman Electronic Systems, Woodland Hills, CA. TAOC Engineering and CETS services. Jan 04

FY04 - FY06 Mission Research Corporation, Fort Worth, TX. CDLS Engineering and Software services. May 04

FY04 - FY07 Carisle Research Incorporated, Van Nuys, CA. TAOM Software Sustainment services. Oct 03

FY04 - FY06 Naval Surface Warfare Center, Crane, IN. ADCP, CIS, DASCAS, CDLS Engineering services. Oct 03

SINGLE INTEGRATED AIR PICTURE (SIAP)

FY04 - FY07 RNB Technologies, Inc., Stafford, VA Engineering services. Jan 04

AN/TPS-59 SUSTAINMENT

FY05 Lockheed Martin Corp., Syracuse, NY. Develop ECPs for software improvements and DMS issues. Mar 05.

FY05 Contractor TBD. Develop Far Field Radar Repeater to support system rebuilds at Barstow. Jun 05.

CLASSIFICATION:

Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2273 Air Operations C2 Systems							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AN/TPS-59 SUSTAINMENT	C/CPFF	Lockheed Martin, NY				2.077	03/05					0.000	2.077	
AN/TPS-59 SUSTAINMENT	TBD	TBD				0.500	06/05					0.000	0.500	
CAC2S	RCP	Raytheon, San Diego, CA	7.469	56.178	06/04	53.649	01/05	23.719	02/06	20.679	01/07	Cont	Cont	
CAC2S	WR	SPAWAR	47.115	0.709	04/04	1.238	01/05	0.300	01/06	0.300	01/07	Cont	Cont	
CAC2S	WR	Center	1.728	0.592	02/04	0.600	01/05	0.600	01/06	0.520	01/07	Cont	Cont	
ADCP	WR	NSWC Crane, IN	2.272	0.178	05/04							0.000	2.450	
MACCS SUSTAINMENT	RCP	NGES, Woodland Hills,	2.127			1.000	01/05	1.095	01/06	0.291	01/07	Cont	Cont	
MACCS SUSTAINMENT	CPFF	CRL, Van Nuys, CA				0.732	01/05	2.000	01/06	1.000	01/07	Cont	Cont	
MACCS SUSTAINMENT	WR	GTACCS		0.125	10/03							0.000	0.125	
MACCS SUSTAINMENT	WR	NATICK		0.018	10/03							0.000	0.018	
MACCS SUSTAINMENT	WR	NSWC, Crane, IN		0.490	02/04							0.000	0.490	
MACCS SUSTAINMENT	RCP	MCSC, Quantico, VA		0.077	06/04							0.000	0.077	
MACCS SUSTAINMENT	RCP	APG, Aberdeen, MD		0.063	01/04							0.000	0.063	
MACCS SUSTAINMENT	RCP	MCSC, Quantico, VA		3.745	08/04							0.000	3.745	
SIAP	RCP	MCSC, Quantico, VA	11.400	4.391	06/04	8.867	01/05	18.821	01/06	11.742	01/07	Cont	Cont	
SIAP	WR	CECOM, Ft Monmouth		1.171	12/03							0.000	1.171	
SIAP	WR	SPAWAR		0.004	12/03							0.000	0.004	
SIAP	WR	NSWC, Crane, IN		2.169	06/04							0.000	2.169	
SIAP	WR	MCSC, Quantico, VA		0.157	03/04							0.000	0.157	
SIAP	RCP	SPAWAR		0.171	12/03							0.000	0.171	
TBMCS	MIPR	ESC, Hanscom AFB	0.673	0.050	08/04	0.300	01/05	0.300	01/06	0.325	01/07	Cont	Cont	
CTN	WR	NSWC, Crane, IN	1.955	1.151	02/04	1.297	01/05	1.406	01/06	0.829	01/07	Cont	Cont	
CTN	WR	NAWC Orlando	0.365	0.028	01/04							0.000	0.393	
CTN	WR	MarForRes	1.031	0.008	06/04							0.000	1.039	
CTN	RCP	Raytheon Col, FL	0.590	0.900	03/04	0.250	01/05	0.275	01/06			0.000	2.015	
CTN	RCP	SAIC, San Diego, CA		2.478	08/04	2.730	01/05	5.083	01/06	0.547	01/07	Cont	Cont	
CTN	RCP	MCSC, Quantico, VA		0.818	08/04							0.000	0.818	
CTN	RCP	Lockheed Martin, NY		0.919	12/03							0.000	0.919	
CTN	RCP	NavSea		1.020	08/04							0.000	1.020	
UOC	WR	SPAWAR	4.891	0.006	01/04	3.839	01/05	1.012	02/06	0.790	01/07	Cont	Cont	
UOC	RCP	MCSC, Quantico, VA	1.412	0.138	10/03							0.000	1.550	
UOC	RCP	General Dynamics		7.802	08/04	2.492	01/05	2.561	02/06	2.074	01/07	Cont	Cont	
CRITICAL INFRASTRUCTURE	WR	SSC Charleston	1.018	1.456	06/04	1.486	05/05					0.000	3.960	
CRITICAL INFRASTRUCTURE	WR	MCSC, Quantico, VA		0.035	09/04							0.000	0.035	
Subtotal Product Development				87.047		81.057		57.172		39.097		Cont	Cont	
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis						DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2273 Air Operations C2 Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
CAC2S	WR	MCSC, Quantico, VA	0.499	0.361	09/04	0.174	01/05	0.336	01/06	0.280	01/07	Cont	Cont		
CAC2S	RCP	MCSC, Quantico, VA	1.470	0.154	04/04	1.000	01/05	1.000	02/06	1.000	02/07	Cont	Cont		
CAC2S	WR	MCTSSA, CPndlttn,CA				0.035	01/05	0.050	01/06	0.035	01/07	Cont	Cont		
CAC2S	WR	NSWC, Crane, IN	0.380	0.220	06/04	0.200	01/05	0.210	01/06	0.200	01/07	Cont	Cont		
CAC2S	RCP	PAE		0.050	04/04							0.000	0.050		
CAC2S	WR	JITC		0.080	12/03	0.075	01/05	0.150	01/06			0.000	0.305		
CAC2S	WR	NCTSI		0.018	01/04							0.000	0.018		
CAC2S	RCP	NSWC, Crane, IN		0.015	03/04							0.000	0.015		
CAC2S	RCP	MCSC, Quantico, VA		0.095	09/04							0.000	0.095		
CAC2S	RCP	Raytheon, Bedford, MA				1.559	01/05	1.835	01/06			0.000	3.394		
CAC2S	WR	MarForRes NO, LA		0.005	06/04							0.000	0.005		
CAC2S	RCP	Redstone		0.069	03/04							0.000	0.069		
JCIET	WR	MCSC, Quantico, VA		0.121	10/03	0.180	01/05	0.190	01/06	0.390	01/07	Cont	Cont		
JCIET	WR	NSWC, Crane, IN		0.319	10/03	0.300	01/05	0.325	01/06	0.335	01/07	Cont	Cont		
JCIET	RCP	MCSC, Quantico, VA		0.753	10/03	0.871	01/05	0.799	01/06	0.601	01/07	Cont	Cont		
JCIET	MIPR	CECOM, Ft Monmouth		0.015	03/04			0.000		0.025	01/07	Cont	Cont		
MACCS Sustainment	WR	NGES, Woodland Hills,				3.000	01/05	3.000	02/06	3.000	03/06	Cont	Cont		
MACCS Sustainment	RCP	MRC, Ft Worth, TX				0.200	01/05	0.400	01/06			0.000	0.600		
MACCS Sustainment	RCP	CRC, Woodland Hills, CA				0.160	01/05	0.160	01/06	0.160	01/07	Cont	Cont		
MACCS Sustainment	WR	Hill AFB, Utah				0.150	01/05	0.150	01/06	0.150	01/07	Cont	Cont		
MACCS Sustainment	WR	NSWC, Crane, IN				0.619	01/05	1.641	02/06	0.084	01/07	Cont	Cont		
TBMCS	WR	MCTSSA, CPndlttn,CA	0.083			0.028	01/05	0.030	01/05	0.032	01/07	Cont	Cont		
TBMCS	RCP	MCSC, Quantico, VA		0.009	02/04							0.000	0.009		
TBMCS	MIPR	SER-CASU		0.100	01/04							0.000	0.100		
TBMCS	RCP	MCSC, Quantico, VA		0.100	09/04							0.000	0.100		
TBMCS	WR	NSWC, Crane, IN		0.050	06/04	0.100	01/05	0.105	01/06	0.105	01/07	Cont	Cont		
TBMCS	WR	MCSC, Quantico, VA		0.055	09/04	0.041	01/05	0.053	01/06	0.054	01/07	Cont	Cont		
CTN	WR	CG 1st MAW	0.014			0.015	01/05			0.018	01/07	Cont	Cont		
CTN	WR	MCSC, Quantico, VA	0.085			0.045	01/05	0.040	01/06	0.045	01/07	Cont	Cont		
CTN	MIPR	Anteon,		0.100	01/04	0.110	01/05	0.121	01/06	0.133	01/07	Cont	Cont		
CTN	RCP	BAE Systems, Huntsv		0.059	12/03							0.000	0.059		
Subtotal Support				2.748		8.862		10.595		6.647		Cont	Cont		
Remarks:															

CLASSIFICATION:

Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2273 Air Operations C2 Systems							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CTN	WR	MCTSSA, CPndltN,CA	0.003			0.015	01/05	0.018	01/06	0.021	01/07	Cont	Cont	
CTN	WR	MACS-24	0.087			0.015	01/05	0.018	01/06	0.021	01/07	Cont	Cont	
CTN		MCOTEA TESTING		0.081	06/04	0.300	01/05	0.264	01/06	0.352	01/07	Cont	Cont	
CTN	WR	NWAS, Corona, CA	0.482	0.012	04/04	0.025	01/05			0.030	01/07	Cont	Cont	
CTN	RCP	MITRE, Bedford, MA				0.025	01/05			0.030	01/07	Cont	Cont	
CTN	WR	NSWC, Dahlgren, VA				0.025	01/05					0.000	0.025	
CAC2S	RCP	CECOM (MCOTEA)		0.130	05/04	0.250	01/05	13.840	03/06	1.000	02/07	Cont	Cont	
TBMCS	WR	NSWC, Crane, IN		0.100	01/04	0.075	01/05	0.075	01/06	0.077	01/07	Cont	Cont	
Subtotal T&E				0.323		0.730		14.215		1.531		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TBMCS	CPFF	NGIT, Stafford, VA	0.519			0.200	01/05	0.214	01/06	0.225	01/07	Cont	Cont	
CAC2S	IDIQ	NGIT, Stafford, VA	6.492	3.282	10/03	2.800	01/05	3.200	02/06			0.000	15.774	
CAC2S	RCP	MITRETEK	0.506	0.640	02/04	1.100	01/05	1.120	01/06			0.000	3.366	
CTN	IDIQ	NGIT, Stafford, VA	0.591	0.144	03/04	0.385	01/05	0.424	01/06	0.466	01/07	Cont	Cont	
CTN	RCP	CSC, Falls Church, VA		0.141	02/04							0.000	0.141	
UOC	IDIQ	NGIT, Stafford, VA	3.396			2.705	01/05	0.504	01/06	0.408	01/07	Cont	Cont	
UOC	RCP	SSC Charleston	0.064	0.235	02/04							0.000	0.299	
UOC	RCP	APG, Aberdeen, MD		0.032	02/04							0.000	0.032	
UOC	TBD	TBD	0.000			5.100						0.000	5.100	
Transaction pending to Restore Funding						-9.600						0.000	-9.600	
Subtotal Management				4.474		2.690		5.462		1.099		Cont	Cont	
Remarks:														
Total Cost				94.592		93.339		87.444		48.374		Cont	Cont	

Schedule			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT		PROJECT NUMBER AND NAME	
RDT&E, N /BA 7 Operational Systems Development		0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems	

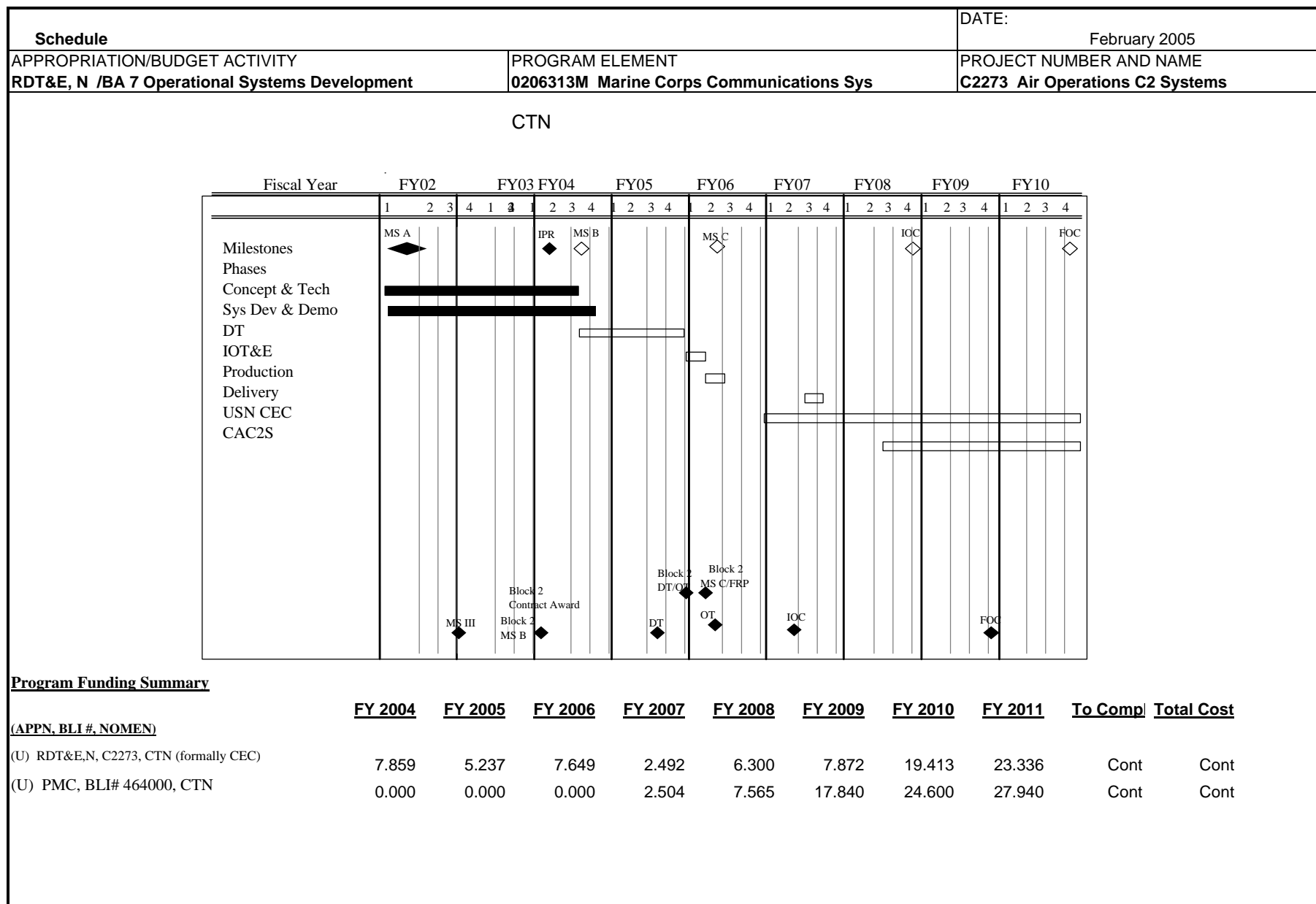
CAC2S Macro Program Schedule

	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08
Milestones	◆ MS			◆ MS B			MS C◆	◆ IOC	FOC◆
CE									
PDRR									
Tech Eval									
SDD									
SW SRR/SFR									
Build 0									
Build 1									
Build 2									
Build 3									
Build 4									
SW CDR									
HW PDR				◆					
HW CDR					◆				
DT									
OT									
Production									

Program Funding Summary

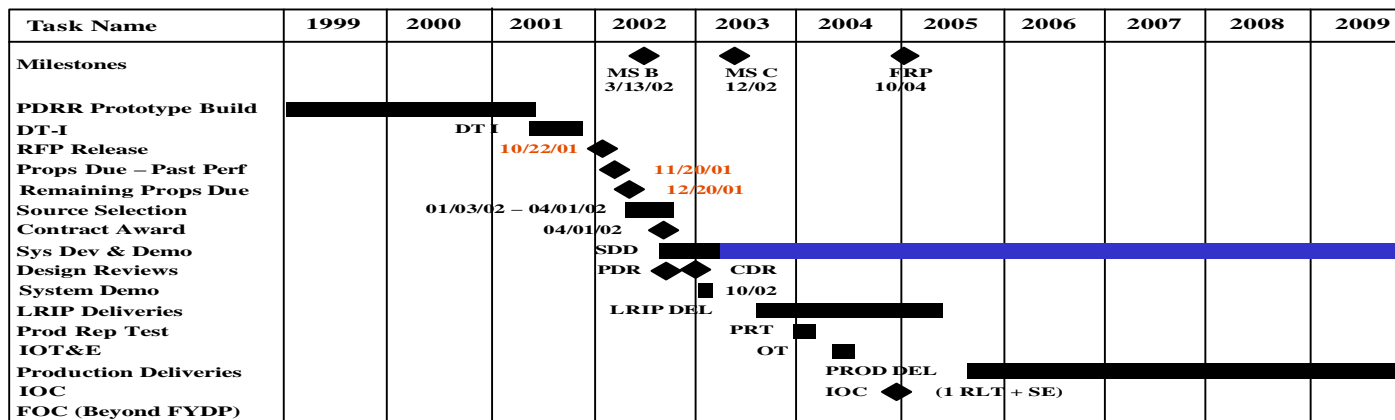
(APPN, BLI #, NOMEN)

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) RDT&E,N, C2273, CAC2S	62.598	62.680	46.360	24.014	18.827	6.966	0.334	0.000	Cont	Cont
(U) PMC, BLI# 464000, CAC2S	0.000	0.000	3.919	35.392	38.626	57.624	36.785	37.743	Cont	Cont



Schedule		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Systems Development	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems

UOC Macro Program Schedule



Program Funding Summary
(APPN, BLI #, NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N, C2273, UOC	8.213	14.136	4.077	3.272	2.366	1.060	0.553	0.347	Cont	Cont
(U) PMC, BLI# 419000, UOC	18.049	27.825	0.952	1.197	0.918	1.022	1.026	1.029	Cont	Cont

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications S			PROJECT NUMBER AND NAME C2274 Intelligence C2 Warfare Systems				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	9.493	11.358	5.989	3.829	3.595	4.167	4.702	3.722
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Command and Control (C2) Warfare Project includes the following tactical electronic intercept, direction finding, and electronic attack systems:

1. The Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) is used to process, sort, analyze, display and correlate electronic surveillance and electronic attack data collected by EA-6B aircraft and maintains the Tactical Electronic Orders of Battle.
2. The Mobile Electronic Warfare Support System, Product Improvement Program (MEWSS-PIP) will be used to collect and process communication and non-communication signals and provide electronic attack capability from a mobile ground platform.
3. The Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions, Radio Reconnaissance Platoons (RRP) with mission unique Signals Intelligence/Ground Electronic Warfare (SIGINT/EW) Equipment suites. Continuing with an evolutionary acquisition approach, the third suite RREP-SS-2 will provide the RRP's with the capability to conduct SIGINT/EW operations in support of Marine Air Ground Task Force (MAGTF) Commanders during advance force special operations, and other special purpose missions where the use of conventional Radio Battalion assets are not feasible. RREP-SS-2 is a ruggedized, modular; man packable system specifically designed utilizing emerging NDI/COTS/GOTS technology for RRP operations, particularly those conducted under the most austere conditions. The RREP SS-3 will be fielded in the 4th Qtr FY04. It will have the added capability to intercept advanced wireless targets identified by the NSA to be operated from remoted positions. SS-3 will extend its life cycle to six years and product improvements will focus on new software and DSP technologies which may be incorporated into the existing system. This approach allows the program to utilize the major components for the entire life-cycle while still keeping pace with emerging Threats and technologies.
4. CESAS (FLAMES) - The Communication Emitter Sensing and Attacking System (CESAS) is a system of COTS/GOTS designed to support the MAGTF Commander in conducting operations. It provides the capability to effectively sense/detect and attack, through the use of electromagnetic energy, the enemy's communication systems in support of the Commander's Command and Control Warfare plan. The system will replace for the existing AN/ULQ-19 and will assume the mission of sensing and denying the enemy the use of the electromagnetic spectrum, thereby disrupting his command and control system. Though primarily HMMWV-mounted, CESAS will also be capable of both seaborne and airborne deployment and employment, enhancing the Radio Battalion's ability to support Expeditionary Maneuver Warfare. The CESAS operate within the bandwidth of 20 to 1500 MHz (Threshold) 2MHz to 2500 MHz (Objective) against enemy emitters that use modern modulation schemes.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.500	0.120	0.030	0.000
RDT&E Articles Qty				
CESAS - Perform integration efforts of AN/USQ-146(V) 5 and Spiral Development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.460	0.060	0.250	0.080
RDT&E Articles Qty				
CESAS - Research and Development Directed Energy and Directional Attack Antennas.				

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EXHIBIT R-2a, RDT&E Project Justification					DATE:
					February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications S		C2274 Intelligence C2 Warfare Systems		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.203	0.250	0.400	0.500	
RDT&E Articles Qty					
CESAS - Research and Development of techniques, tactics and procedures.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.291	0.650	0.250	
RDT&E Articles Qty					
CESAS - Research and Development of Training Equipment; for USQ-146 real time simulation equipment to provide a "Miles Gear" type application for Electronic Attack equipment and Victim Receiver interface.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.350	0.397	0.174	0.196	
RDT&E Articles Qty					
CESAS - Program support and documentation Development and Maintainance.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.119	0.030	0.030	0.023	
RDT&E Articles Qty					
CESAS - Program Management Support.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.000	
RDT&E Articles Qty					
CESAS - TTP Development and Operational Analysis.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	1.000	0.000	0.000	
RDT&E Articles Qty					
MEWSS PIP: System software enhancements and Pre-Planned Product Improvement (P3I).					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	3.127	3.348	0.000	0.000	
RDT&E Articles Qty					
MEWSS PIP: ELINT System enhancements.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	1.141	2.162	0.461	0.000	
RDT&E Articles Qty					
MEWSS PIP: Operational Readiness enhancements.					

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications S	C2274 Intelligence C2 Warfare Systems		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.103	0.000	0.000	0.000
RDT&E Articles Qty				
MEWSS PIP: Program Management Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Qty				
MEWSS PIP: Reprogrammed to COMM and INTEL				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.574	1.211	1.200	0.709
RDT&E Articles Qty				
TERPES: Research for TERPES software applications, hardware and software integration research, investment for R&D equipment and facilities; work to integrate the newer integrated broadcast receivers (IBR)s and Joint Tactical Terminal (JTT).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.448	1.713	2.012	1.050
RDT&E Articles Qty				
TERPES: Research TERPES software to provide improvements in the interfaces and interoperability with the EA-6B Improved Capabilities (ICAP) II and III aircraft, (TEPP/TSP application); improve overall system performamance (Tactical Data Correlation).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.178	0.370	0.362	0.252
RDT&E Articles Qty				
TERPES: Program Management Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.290	0.406	0.420	0.769
RDT&E Articles Qty				
RREP: Research and development of the RREP SS-3 PIP to include integration of EA.				
(U) Total \$	9.493	11.358	5.989	3.829

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications S				C2274 Intelligence C2 Warfare Systems					
(U) PROJECT CHANGE SUMMARY:	FY2004	FY2005	FY2006	FY2007						
(U) FY 2005 President's Budget:	12.965	8.136	5.437	4.527						
(U) Adjustments from the President's Budget:										
(U) Congressional/OSD Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings										
(U) SBIR/STTR Transfer										
(U) Minor Affordability Adjustments										
(U) FY 2006 President's Budget:	9.493	11.358	5.989	3.829						
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:A167										
<u>Line Item No. & Name</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC BLI 463600 Modification Kits MEWSS	18.617	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.617
(U) PMC BLI 465200 Modification Kits MEWSS	0.000	0.000	1.332	0.209	0.000	0.000	0.000	0.000	0.000	1.541
(U) PMC BLI 474700 Intell Suppt Eq RREP	1.100	0.000	4.209	0.034	1.019	5.191	0.100	1.294	0.000	12.947
(U) PMC BLI 474900 Mod Kits INTEL TERPES	2.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.493
(U) PMC BLI 465200 Mod Kit TERPES	0.000	0.000	2.982	0.000	3.182	0.000	0.000	0.000	0.000	6.164
(U) PMC BLI 463600 FLAMES (CESAS)	0.000	4.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.268
(U) PMC BLI 465200 Mod Kit FLAMES (CESAS)	0.000	0.000	5.595	5.521	0.475	1.356	0.000	0.000	0.000	12.947
(U) Related RDT&E:										
(U) (U) PE 0305885G (Tactical Cryptologic Program)										

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N /BA-7 Operational Sys Dev

PROGRAM ELEMENT NUMBER AND NAME

0206313M Marine Corps Communications S

PROJECT NUMBER AND NAME

C2274 Intelligence C2 Warfare Systems

(U) D. ACQUISITION STRATEGY TERPES: The acquisition of components for the TERPES upgrade refreshes will maximize the use of existing equipment, NDI/COTS/GOTS/GFE equipment and software. The integration effort for TERPES hardware and software will be accomplished through the TERPES System Support Activity, Naval Air Warfare Center - Weapons Division, Pt. Mugu, CA. These efforts are directed by the Program Manager for Intelligence Systems, MAGTF C4ISR Product Group, Marine Corps Systems Command. This strategy accomplishes several goals: standardization of equipment and software; use equipment that can be acquired and fielded quickly, reduction of logistics requirements, and reduce cost of software maintenance.

(U) D. ACQUISITION STRATEGY MEWSS PIP: The MEWSS PIP initiates Marine Corps Systems Command-administered contracts as follow-on to the Army CECOM Intelligence and Electronic Warfare Common Sensor (IEWCS) contract used for development/fielding of the three MEWSS PIP LRIP vehicles. These contracts are sole source to Lockheed Martin Systems Integration in Owego, New York.

(U) D. ACQUISITION STRATEGY RREP: The RREP will incorporate and integrate cutting edge technologies through the use of Commercial off the Shelf (COTS) components to include Marine Corps Common Hardware components and Government off the Shelf (GOTS) DII COE compliant software. Contract is Cost Plus Fixed Fee (CPFF).

(U) D. ACQUISITION STRATEGY CESAS: Acceleration of the CESAS effort and designation of CESAS as a Program of Record was undertaken as part of the Defense Emergency Response Funding initiative (DERF). Funds were applied to the program in FY-2 and together with FY03 DERF funds, an initial AN/ULQ-19 replacement capability was provided to the fleet in the Feb 04 for field user evaluation purposes. Three (3) AN/USQ-146(V) 3 units were procured from Rockwell Collins and integrated into the HMMWV platforms. SSCC performed the integration effort. Two (2) prototypes were used for DT in Aug 03 with assistance from MCOTEA. OA was conducted in Dec 03 with a success rate. Upon completion of OA, SSCC incorporated ECP and modifications identified during OA in the prototype units. Two (2) prototypes were provided to 3rd RADBN in Feb 04 for FUE, production will begin in FY05 meeting the IOC and FOC in FY07.

(U) E. MAJOR PERFORMERS:

MOBILE ELECTRONIC WARFARE SUPPORT SYSTEM, PRODUCT IMPROVEMENT PROGRAM (MEWSS-PIP)

FY04 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support.

Penn State Univ, State College, PA Funds for ELINT enhancements.

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements.

FY05 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support.

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements.

FY06 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support.

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements.

FY07 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support.

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements.

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications S	C2274 Intelligence C2 Warfare Systems
(U) E. MAJOR PERFORMERS: (Continued)		
TACTICAL ELECTRONIC RECONNAISSANCE PROCESSING AND EVALUATION (TERPES)		
FY04 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.		
LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.		
FY05 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.		
LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.		
FY06 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.		
LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.		
FY07 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.		
LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and m		
RADIO RECONNAISSANCE EQUIPMENT PROGRAM (RREP)		
FY04 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 04		
FY05 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 05		
FY06 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 06		
FY07 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 07		

Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev				PROGRAM ELEMENT 0206313M Marine Corps Communication Systems				PROJECT NUMBER AND NAME C2274 Intelligence C2 Warfare Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract
MEWSS	CPFF	Lockheed Martin	16.061	0.000	11/03	1.000	11/04					Cont	Cont	
MEWSS	WR	SPAWAR, S.C	1.100	1.141		3.348		0.461	11/05			Cont	Cont	
MEWSS	WR	SPAWAR, S.C	0.828			2.162	11/04					Cont	Cont	
MEWSS	RCP	PSU/Albany	3.100	3.127	03/04	0.000						Cont	Cont	
TERPES	RCP	Lockheed Martin	1.875	1.474	10/03	1.713	12/04	2.012	12/05	1.050	12/06	Cont	Cont	
TERPES	WR	NAWC, Pt. Mugu CA	3.544	0.874	12/03	1.211	01/05	1.200	01/06	0.709	01/07	Cont	Cont	
RREP	RCP	NSWC, Crane	0.466	0.290	02/04	0.406	02/05	0.420	01/06	0.769	01/07	Cont	Cont	
CESAS	RCP	SPAWARSYSCEN		0.500	02/04	0.120	12/04	0.030	12/05			Cont	Cont	
CESAS	CPFF	CTI				0.291	12/04	0.650	12/05	0.250	12/06	Cont	Cont	
CESAS	RCP	MCLB		0.060	01/04	0.060	12/04	0.250	12/05	0.080	12/06	Cont	Cont	
CESAS	MPR	NAVAIR		0.400	05/04	0.250	12/04	0.400	12/05	0.500	12/06	Cont	Cont	
Subtotal Product Development			26.974	7.866		10.561		5.423		3.358		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract
TERPES	RCP	NSMA (MTC)	0.440	0.086	03/04			0.052	11/05	0.052	11/06	Cont	Cont	
TERPES	RCP	MCSC	0.787	0.701	02/04	0.370	02/05	0.310	02/06	0.200	02/07	Cont	Cont	
CESAS	RCP	NSMA (MTC)		0.350	06/04	0.397	10/04	0.174	11/05	0.196	11/06	Cont	Cont	
CESAS	RCP	MCSC		0.322	03/04	0.030	10/04					Cont	Cont	
TERPES	RCP	MCSC		0.045								0.000	0.045	
Subtotal Support			1.227	1.504		0.797		0.536		0.448		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract
CESAS	RC	MCSC						0.030	12/04	0.023	12/05	Cont	Cont	
MEWSS	RC	MCSC		0.103	09/04							0.000	0.103	
TERPES	MPR	ESC		0.020	09/04							0.000	0.020	
Subtotal Management			0.000	0.123		0.000		0.030		0.023		Cont	Cont	
Remarks:														
Total Cost			28.201	9.493		11.358		5.989		3.829		Cont	Cont	

Exhibit 4/4a Schedule Profile/Detail		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	38384
RDTE&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2274 Intelligence C2 Warfare Systems

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MEWSS Schedule



	FY03	FY04	FY05	FY06	FY07	FY08	FY09
IOT&E Deficiency Analysis	■						
IOT&E Fixes	■						
DT	■						
Delivery & Training	■						
MEWSS PIP Op Assessment	■						
OA Quicklook Report	▲						
Production Decision (MS-C)	▲	■	■	■	■	■	■
Contractor Logistics Support		■	■	■	■	■	■
Basing & Fielding Decision		▲					
MEWSS PIP IOC		▲					
MEWSS PIP FOC		▲					
Legacy Repairs & CLS	■	■	■	■	■	■	■
Legacy Upgrades	■	■	■	■			

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Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDTE&E,N	4.371	3.162	0.461	0.000	0.000	0.000	0.000	0.000	0.000	7.994
(U) PMC, BLI# 463600 Mod Kits MAGTF C4I MEWSS	18.617	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC, BLI# 465200 Mod Kits MEWSS	0	0.000	1.332	0.209	0.000	0.000	0.000	0.000	0	20.158

Exhibit 4/4a Schedule Profile/Detail		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	38384
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2274 Intelligence C2 Warfare Systems

Exhibit 4/4a Schedule Profile/Detail		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev		February 2005
PROGRAM ELEMENT 0206313M Marine Corps Communication Systems		38384
		C2274 Intelligence C2 Warfare Systems

RREP MILESTONE SCHEDULE

EVENT	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
SS-3 MS-B	3Q								
SS-3 MS-C		4Q							
SS-3 IOC/FOC				2/3Q	1Q				
SS-3 PIP IOC/FOC						1Q			
SS-4 MS B						2Q			
SS-4 MS C							2Q		
SS-4 IOC/FOC								1Q	

<u>Program</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(APPN, BLI #, NOMEN)										
(U) RDT&E,N	0.290	0.406	0.420	0.769	0.727	0.904	0.728	0.828	Cont	Cont
(U) PMC BLI 474700 Intell Suppt EQ RREP	1.100	0.000	4.209	0.034	1.019	5.191	0.100	1.294	0.000	12.947

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems				C2275 Radio Systems			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		8.904	8.536	15.640	14.542	13.790	12.088	8.820	8.039
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Joint Tactical Radio System - JTRS is a Family of Joint Multi-Channel/Multi-Mode, Software-Defined, Reprogrammable Tactical Radio Systems. Providing high capacity line of sight (LOS) and beyond line of sight (BLOS) plain and secure voice, data, and video while operating in frequency bands from 2 MHz to 2 GHz. Providing network connectivity across the radio frequency (RF) spectrum and providing the means for required tactical digital information exchanges.</p> <p>Block 1: Interim Handheld/Manpack and Data Radios. Includes 3 radio systems: the High Frequency Man-pack Radio (HFMR), the Tactical Handheld Radio (THHR), and software upgrades/maintenance for Enhanced Position Location Reporting System (EPLRS) radios.</p> <p>Block 2: Ground Vehicular/Rotary Wing, scaleable to 6 Channels (US Army – Cluster 1): Expeditionary Maneuver Warfare Air Ground Over the Horizon (EMW A/G OTH) Communications Vehicle (initially replacing systems beyond lifecycle: AN/MRC-138, AN/VRC-83), and C2 platforms that require multiple channels in multiple bands (LAV-C2 (Light Armored Vehicle Command and Control Variant, Unit Operations Center (UOC), and EFV (Expeditionary Fighting Vehicle) formerly AAAY.</p> <p>Block 3: Handheld/Man-pack, 1 or 2 Channels (USSOCOM – Cluster 2): Multipurpose Handheld and Manpacks (initially replacing systems beyond lifecycle: AN/PRC-68, PRC-104, PRC-113). These radios should be available in FY06-FY07.</p> <p>Tactical Elevated Antenna Mast System (TEAMS) is a single HMMWV mounted 100' telescoping antenna mast replacing the two AN/MRC- 142 50' antennas. TEAMS provides a safer more efficient mast to allow up to twice the current height capability to overcome obstructions caused by over head canopy and obstructing ridges which eliminates the need to set up additional relay sites. TEAMS will be employed with AN/MRC-2 then JTRS when the AN/MRC-142 is replaced by JTRS.</p> <p>(U) Integrated Intra-Squad Radio Systems (IISR) - Integrated Intra-Squad Radio is a short-range radio that utilizes advanced wireless LAN technology and spread spectrum techniques to provide a hands free intercommunication capability while ensuring a low probability of interception and detection. The IISR consists of a small radio unit powered by 2 AA batteries, a wireless PTT switch, a lightweight headset compatible with the current combat helmet, and a heavy-duty nylon pouch. The dual version integrates with the AN/PRC-148 using an additional Push-to-talk (PTT) switch to provide the user control of two radios with one headset/microphone.</p> <p>(U) Tactical Satellite Comm Terminal - LIGHTWEIGHT MULTIBAND STATELLITE TERMINAL (LMST)/GROUND MOBILE FORCES (GMF) is a tri-band Super High Frequency (SHF) satellite terminal mounted in transit cases and transported by HMMWVs. They will augment the existing Ground Mobile Force (GMF) satellite terminals. Additionally, across the FYDP, in accordance with the LMST Acquisition Strategy and Baseline, a quantity of 21 existing GMF terminals (TSC-93) will be upgraded and refurbished with enhanced components in order to extend their useful life. The GMF upgrades will occur concurrent with additional LMST transit case terminal procurements.</p> <p>(U) Legacy Communications/Electronics Modifications and Sustainment encompass post production sustainment of fielded tactical communication and networking systems and service life extension programs (SLEP) of aging communications equipment reaching the end of their life cycle. The post production sustainment provides necessary engineering and logistic support to maintain the existing operational capability above threshold operational readiness. The support provides equipment specialists, configuration management, supply support coordination and control, depot maintenance control and warranty administration.</p> <p>Networks: The following systems require SLEP/supportability upgrades: The Unit Level Circuit Switch (ULCS), which consists of the TTC-42, SB-3865 and SB-3614 require sustainment and modifications to continue the operating forces networking/switching capability until TSM is fielded. The AN/TSQ-227 Digital Technical Control (DTC) upgrades are driven by DoD mandated interoperability and security requirements, which includes technology insertion and evolutionary equipment improvements.</p> <p>(U) Wireless: The following systems require SLEP/supportability upgrades: These are the AN/TRC-170 Tropospheric Scatter Microwave Radio Terminal and the AN/PSC-5 "ShadowFire" upgrade. The AN/TRC-170 provides secure digital trunking between major nodes of the TRI-TAC communications network with a range of over 100 miles and will reach its end of service life in FY05. The FY05 upgrade allows for the fielded AN/PSC-5 to support past FY04.</p>									

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C2275 Radio Systems	
<p>(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay - (CONDOR) is a direct result of after action reports from Operations Iraqi Freedom and Enduring Freedom. The equipment suite will enable and provide on-the-move (OTM), over-the-horizon (OTH) connectivity between Tactical Data Radio networks (such as EPLRS networks). A CONDOR GW equipment suite consists primarily of a SATCOM modem, a mobile SATCOM antenna, a router, LAN encryption equipment, and a shock-mounted transit case. No vehicles are being procured. The CONDOR GW equipment suite will be installed on existing vehicles.</p> <p>(U) SHF Wideband Replacement (HC3) will be the Marine Air Ground Task Force (MAGTF) commanders primary SATCOM method of transmitting and receiving wideband voice, video, and data. The HC3 will be used at all levels of the MAGTF to support the commanders critical communication requirements. At the Regiment and below the focus will be on Comm-on-the-Move (COTM) and Comm-on-the-Pause (COTP) communications while at the Division/FSSG/Wing and above the transportable version will be incorporated as well. HC3 will be embedded in tactical vehicles such as the Expeditionary Fighting Vehicle (EFV) and the Light Armored Vehicle (LAV). As a result, it will play a vital role in command and control in all phases of an operation.</p> <p>(U) Wireless Cable Replacement - WCR - The Wireless Cable Replacement (WCR) Initiative will procure a line of sight, unattended repeater capable of data rates ranging from 4.6 Mb/s to 155 Mb/s. This repeater will wirelessly remote data and telephone services from command and control centers to transmission systems such as the AN/MRC-142 and the AN/TRC-170. OIF Lessons-Learned revealed that fiber optic cables were highly susceptible to damage, leading to loss of service to the supported commander and staff. The WCR initiative fulfills the WCR Requirement within the Digital Wideband Transmission System (DWTS) Required Operational Capability (ROC) CCC 256.1.2, change 6 dated 28 Jan 04. The subject and purpose of the DWTS ROC is the official requirement for the AN/TRC-170, AN/MRC-142(A&B), and the WCR in the Marine Corps.</p> <p>(U) MILSTAR Advanced Satellite Terminal (SECURE MOBILE ANTI-JAM RELIABLE TACTICAL TERMINAL (SMART-T)) - This terminal operates with MILSTAR compatible communications payloads and transmits and extremely high frequency (EHF) uplink signal and receives a super high frequency (SHF) downlink signal to provide the MAGTF commander with robust, low probability of intercept, jam resistant communications.</p>			
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost	1.283	1.100	0.112
RDT&E Articles Qty			
JTRS: Migration/Integration Studies and Analysis. Manpack/Handheld JTRS.			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost	0.598	0.614	0.829
RDT&E Articles Qty			
JTRS: Program Support and Management.			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost	3.946	4.421	0.000
RDT&E Articles Qty			
JTRS: Gnd Vehicular Cluster 1 EMD Radio Manufacturing.			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost	1.075	1.313	2.674
RDT&E Articles Qty			
JTRS: Gnd Vehicular (Cluster 1) Early Operational Assessment (EOA), Developmental and Operational Testing (DT/OT).			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost	0.752	0.844	0.262
RDT&E Articles Qty			
JTRS: Technical and Engineering Support.			

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EXHIBIT R-2a, RDT&E Project Justification				DATE:	
				February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems		C2275 Radio Systems	
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.325	0.244	0.240	0.570
RDT&E Articles Qty					
JTRS: Contract Advisory and Assistance Services.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.180	0.000	0.000	0.000
RDT&E Articles Qty					
GBS: Operational Test and Evaluation					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.100	0.000
RDT&E Articles Qty					
IISR: Concept and Technical Development					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.100	0.000
RDT&E Articles Qty					
IISR: Operational Test and Evaluation					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.432	1.831
RDT&E Articles Qty					
SHF Wideband Replacement (HC3): USMC integration efforts.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.100	0.000
RDT&E Articles Qty					
TSCT (LMST): Ka-Band Upgrade Effort.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.045	0.000	0.000	0.500
RDT&E Articles Qty					
TSCT (LMST): LMST Technical Upgrades.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.290	0.000	0.000	0.000
RDT&E Articles Qty					
TSCT (LMST): Integration HMMWV redesign initiative.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.310	0.000	0.200	0.200
RDT&E Articles Qty					
TSCT (LMST): Contract support costs.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.100	0.000	0.000	0.000
RDT&E Articles Qty					
TSCT (LMST): SHF Wideband Integration Effort.					

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems	C2275 Radio Systems	
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	2.190
RDT&E Articles Qty				1.670
Legacy Comm/Elec (Networks): Develop and test component upgrades for integration into legacy network equipment (ULCS/DTC)				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.381
RDT&E Articles Qty				0.123
Legacy Comm/Elec (Wireless): Develop and test component upgrades for integration into legacy radio systems (TRC-170 / PSC-5)				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.042
RDT&E Articles Qty				0.195
CONDOR: Spiral Development Studies and Integration Development				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.713
RDT&E Articles Qty				0.749
CONDOR: Program Support, Logistics Support & Management.				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.000
RDT&E Articles Qty				0.500
CONDOR: Point of Presence Vehicle (PoP-V) Engineering Development Model (EDM) Manufacturing				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.000
RDT&E Articles Qty				1.500
CONDOR: Jump Command and Control Vehicle (JC ² -V) EDM Manufacturing				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.215
RDT&E Articles Qty				0.226
CONDOR: Technical, Engineering Support and Contract Advisory, Assistance Services				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.510
RDT&E Articles Qty				0.538
CONDOR: Gateway OT				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.040
RDT&E Articles Qty				0.040
CONDOR: Travel/TAD				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.550
RDT&E Articles Qty				0.578
CONDOR: Point of Presence Vehicle (PoP-V) DT/OT				
COST (\$ in Millions)		FY2004	FY2005	FY2006
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.550
RDT&E Articles Qty				0.578

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EXHIBIT R-2a, RDT&E Project Justification				DATE:	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		February 2005	
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems		C2275 Radio Systems	
CONDOR: Jump Command and Control Vehicle (JC ² -V) DT/OT					
COST (\$ in Millions)		FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.250	0.263
RDT&E Articles Qty					
CONDOR: Integration, update support documentation and contract support costs.					
COST (\$ in Millions)		FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.150	0.158
RDT&E Articles Qty					
CONDOR: MCTSSA interoperability/DISA on-orbit tests.					
COST (\$ in Millions)		FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	0.810
RDT&E Articles Qty					
WCR: Contractor Support					
COST (\$ in Millions)		FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	0.250
RDT&E Articles Qty					
WCR: Operational Testing, MCOTEA					
COST (\$ in Millions)		FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	0.050
RDT&E Articles Qty					
WCR: MCTSSA Integration Testing					
(U) Total \$		8.904	8.536	15.640	14.542
(U) PROJECT CHANGE SUMMARY:	FY2004	FY2005	FY2006	FY2007	
(U) FY 2005 President's Budget:	8.772	8.670	4.865	4.328	
(U) Adjustments from the NAVCOMPT Budget:					
(U) Congressional/OSD Program Reductions					
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings	0.221		10.635	10.039	
(U) SBIR/STTR Transfer	-0.089				
(U) Minor Affordability Adjustment		-0.134	0.140	0.175	
(U) FY 2006 President's Budget:	8.904	8.536	15.640	14.542	
CHANGE SUMMARY EXPLANATION:					
(U) Funding: See Above.					
(U) Schedule: Not Applicable.					
(U) Technical: Not Applicable.					

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EXHIBIT R-2a, RDT&E Project Justification						DATE:				
						February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems					C2275 Radio Systems			
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC, BLI# 464300 Jt Tactical Radio Sys	0.000	0.000	0.000	0.000	121.342	172.866	115.027	117.571	Cont	Cont
(U) PMC, BLI# 464300 Legacy Bridge	11.068	25.909	14.837	10.827	0.000	0.000	0.000	0.000		62.641
(U) PMC BLI# 463300 Radio Systems (LMST)	8.934	17.157	4.336	11.195	4.813	1.292	1.131	1.385	0.000	50.243
(U) PMC BLI# 463300 LEGACY RADIO SYS	0.000	3.741	7.243	17.127	13.515	14.476	6.071	2.060	0.000	64.233
(U) PMC BLI# 463300 CONDOR	0.000	0.000	3.854	8.395	8.403	8.213	5.882	0.000	0.000	34.747
(U) PMC BLI# 463300 Wireless Cable Replacement	0.000	0.000	0.000	0.785	4.023	8.359	3.700	2.916	0.000	19.783
(U) Related RDT&E: Not Applicable										
(U) D. ACQUISITION STRATEGY:										
(U) LEGACY COMM ELECTRONICS MOD:										
Networks: The Acquisition strategy for Legacy Comm/Elec would require the use of a integration contractor to develop and test new components prior to their procurement (as required). The individual components are primarily Commercial Off the Shelf (COTS) in nature, and a maximum effort will be made to procure components from existing contract.										
(U) Wireless: Provide continous sustainment support to fielded equipment and implemented Service Life Extention Programs for equipment reaching its end of life/supportability.										
(U) Tactical Satellite Comm Terminal - LMST- The acquisition strategy for the Lightweight Multiband Satellite Terminal and GMF terminals is to procure the minimum amount of LMST terminals for the FMF to satisfy the need for a modern tri-band satellite terminal in the USMC inventory while simultaneously upgrading the legacy GMF TSC-93 terminals with enhanced components. Upgrading the GMF terminals is in accordance with the LMST acquisition strategy and will attempt to fill the gap in USMC SATCOM capability since funding will not allow for meeting the LMST AAO completely. The LMST upgrade program leverages off the current efforts and integrates the full duplex Ka-band capabilites into existing terminals.										
(U) SHF Wideband Replacement (HC3) is the long-term Development of multi-band replacement terminals synchronized with Tranformational Communications (TC) satellite availability across the DoD. The USMC RDTE funding is for pre-milestone B activities & partnering with industry with Initial studies and transfer of technology between services. And, it will bring capability to test incrementally as selected technologies mature. The early efforts will ensure USMC interests are given equal weight to that of other services as this terminal will replace (approx. 2010/2012) all other DoD SATCOM terminals.										
(U) JTRS - JTRS is the next generation radio systems to provide required transformational capabilities while leveraging modern technologies to resolve interoperability and lifecycle computer-based command and control systems. These radios will also support Marine Corps requirements for high-capacity, dynamic, mobile, networked, communictaions as the Marine Corps continues to automate its processes. Integration of these radios into C2 platforms, and begin procurement of Ground Vehicular JTRS to replace aging HF Over the Horizon (OTH) (AN/MRC-138) and UHF Air/Ground (AN/VRC-83) radio systems. The integration of JTRS into the EFV will increase its C4I capability and eliminate the cost of retrofitting the EFV for JTRS Life Cycle Cost Reduction. JTRS will reduce development costs for enhancements to future radio system implementations, reduce maintenance support costs by reducing the number of types of radio systems in the inventory, and reduce operating costs through the employment of multi-function radio systems.										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C2275 Radio Systems	
<p>(U) INTEGRATED INTRA-SQUAD RADIO - IISR - Integrated Intra-Squad Radio is a short-range radio that utilizes advanced wireless LAN technology and spread spectrum techniques to provide a hands-free intercommunication capability while ensuring a low probability of interception and detection. The IISR consists of a small radio unit powered by 2 AA batteries, a wireless PTT switch, a lightweight headset compatible with the current combat helmet, and a heavy-duty nylon pouch. The dual version integrates with the AN/PRC-148 using an additional Push-to-talk (PTT) switch to provide the user control of two radios with one headset/microphone.</p> <p>(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay - CONDOR -- CONDOR was approved as an ACAT Level III program. Commanding Officer MCSC will be the MDA. The MCSC CONDOR project office will pursue a Milestone B decision during 1st QTR FY05 and a Mileston C decision during 1st QTR FY06. The CONDOR GW concept has been developed over the past 12 months by the cooperative efforts of MCSC and ONR (Littoral Combat, Future Naval Capabilities). Having achieved advocate endorsement at the CEAB in August 2003, CONDOR GW is drafting a Technology Transition Agreement (TTA) with ONR for transition to a Program of Record (POR).</p> <p>(U) Wireless Cable Replacement - WCR - The acquisition strategy for WCR involves the testing and procurement of a fully developed and mature COTS product. MCSC WCR will select from 3 or more manufacturers. The final selection will be based on capability, price, and Marine Corps test results.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>FY06 TSCT (LMST) HARRIS COMM SYS, MELBOURNE, FL KA-BAND INTEGRATION & UPGRADE, JAN - 06.</p> <p>FY06 SHF WIDEBAND REPLACEMENT (HC3): PM WIN-T CECOM, FT. MONMOUTH NJ</p> <p>FY05 JTRS: MITRE PROGRAM SUPPORT, OCT 04.</p> <p>FY06 JTRS: MITRE PROGRAM SUPPORT, OCT 05.</p> <p>FY05 JTRS: BOEING, ANAHEIM, CA ,MAJOR H/W SUB, HARRIS, ROCHESTER, NY ,BAE, WAYNE NJ. MAJ S/W SUB TRW SEATTLE, WA, OCT 04.</p> <p>FY06 JTRS: BOEING, ANAHEIM, CA, MAJOR H/W SUB, HARRIS, ROCHESTER, NY, BAE, WAYNE, NJ. MAJ S/W SUB TRW SEATTLE, WA, OCT 05.</p> <p>FY07 JTRS: BOEING, ANAHEIM, CA, MAJOR H/W SUB, HARRIS, ROCHESTER, NY, BAE, WAYNE, NJ. MAJ S/W SUB TRW SEATTLE, WA, OCT 06.</p> <p>FY06 LEGACY: TBD</p> <p>FY07 LEGACY: TBD</p> <p>FY06 SHF WIDEBAND</p> <p>FY07 SHF WIDEBAND</p> <p>FY06 CONDOR: TBD</p> <p>FY07 WCR: TBD</p>			

Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev				0206313M Marine Corps Communication Systems				C2275 Radio Systems						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
LMST HMMWV Integration/Redesign	FFP	Harris Corp, Florida		0.290	11/04							0.000	0.290	
LMST Ka-Band Upgrade	FFP	Harris Corp, Florida		0.000				1.100	01/06			0.000	1.100	
LMST Technical Upgrades	FFP	Harris Corp, Florida		0.045	08/04					0.500	TBD	Cont	Cont	
LMST Migration Study	FFP	PM WIN-T, CECOM		0.100	06/04							0.000	0.100	
SHF Wideband Replacement	MIPR	PM WIN-T, CECOM						1.432	TBD	1.831	TBD	Cont	Cont	
JTRS EMD Radio Manufacturing	CPAF	Boeing, Anaheim, CA	0.000	3.296	02/04	4.421	02/05	0.000		0.000		Cont	Cont	
IISR Concept and Technical Development	CPAF	TBD		0.000		0.000		0.100	12/05	0.000		Cont	Cont	
LCE (Networks) Development	FFP	TBD		0.000		0.000		2.170	01/06	1.650	01/07	Cont	Cont	
LCE (Wireless) Development	FFP	TBD		0.000		0.000		0.371	01/06	0.113	01/07	Cont	Cont	
CONDOR PoP-V EDM Manufacturing	TBD	TBD		0.000		0.000		1.000	11/05	0.500	11/06	Cont	Cont	
CONDOR JC2-V EDM Manufacturing	TBD	TBD		0.000		0.000		1.000	11/05	1.500	11/06	Cont	Cont	
Studies and Integration Development	TBD	TBD		0.000		0.000		1.042	11/05	0.195	11/06	Cont	Cont	
Subtotal Product Development			0.000	3.731		4.421		8.215		6.289		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JTRS TRAVEL	Allot	MARCORSYSCOM	0.020	0.040	10/03	0.040	10/04	0.040	10/05	0.040	10/06	Cont	Cont	
JTRS Integration/Migration	FFP	NORTH GRUMMAN	0.237	1.283	12/03	1.100	12/04	0.112	12/05	0.115	12/06	Cont	Cont	
JTRS Tech & Eng Support	FFP	NORTH GRUMMAN		0.752	10/03	0.844	10/04	0.262	10/05	0.577	10/06	Cont	Cont	
CONDOR Program travel	Allot	MARCORSYSCOM		0.000		0.000		0.040	10/05	0.040	11/06	Cont	Cont	
CONDOR Technical Support	FFP	Titan, Stafford, VA		0.000		0.000		0.175	10/05	0.184	10/06	Cont	Cont	
CONDOR Integration and update Support documentation, Contract support costs	TBD	TBD		0.000		0.000		0.250	11/05	0.263	11/06	Cont	Cont	
LMST Contractor Support	MIPR	Ft. Monmouth, NJ		0.310	10/04							0.000	0.310	
LMST Contractor Support	FFP	NGIT, Stafford, VA						0.200	10/05	0.200	10/06	Cont	Cont	
WCR Program Support	FFP	NGIT, Stafford, VA		0.000		0.000		0.000		0.440	10/06	Cont	Cont	
WCR Contract Adv & Asst	FFP	Titan, Stafford, VA		0.000		0.000		0.000		0.370	10/06	Cont	Cont	
Subtotal Support			0.257	2.385		1.984		1.079		2.229		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis								DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Systems					C2275 Radio Systems							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
JTRS Gnd Veh EOA/DT/OT	WR	MCOTEA		0.150	12/03	0.150	10/04	0.150	10/05	0.150	10/06	Cont	Cont		
JTRS Gnd Veh EOA/DT/OT	MIPR	PM WIN-T, CECOM		1.575	12/03	1.163	10/04	2.524	10/05	1.596	10/06	Cont	Cont		
IISR Operational T&E	MIPR	TBD		0.000		0.000		0.100	12/05	0.000		0.000	0.100		
LCE (Networks) Integration Tests	WR	MCTSSA		0.000		0.000		0.020	12/05	0.020	12/06	0.000	0.040		
LCE (Wireless) Integration Tests	WR	TBD		0.000		0.000		0.010	12/05	0.010	12/06	Cont	Cont		
CONDOR Integration Tests	WR	TBD		0.000		0.000		0.150	11/05	0.158	11/06	Cont	Cont		
CONDOR Gateway OT, JC2-V OT, and PoP-V OT	WR	TBD		0.000		0.000		1.610	11/05	1.694	11/06	Cont	Cont		
WCR Integration Testing	FFP	MCTSSA, CA/TBD		0.000		0.000		0.000		0.050	11/06	Cont	Cont		
WCR MOT&E	FFP	MCOTEA		0.000		0.000		0.000		0.250	01/07	Cont	Cont		
GBS	WR	MCOTEA		0.180								0.000	0.180		
Subtotal T&E			0.000	1.905		1.313		4.564		3.928		Cont	Cont		
Remarks:															
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
JTRS Program Support	FFP	NGIT,Stafford, VA	0.308	0.558	10/03	0.574	10/04	0.789	10/05	0.735	10/06	Cont	Cont		
JTRS Contract Adv & Assist	FFP	TITAN VA		0.325	12/03	0.244	10/04	0.240	10/05	0.570	10/06	Cont	Cont		
CONDOR Program Support, Contract Adv & Asst	FFP	Titan, Stafford, VA		0		0		0.603	10/05	0.633	10/06	Cont	Cont		
CONDOR Logistics Support	FFP	NGIT,Stafford, VA		0		0		0.15	10/05	0.158	10/06	Cont	Cont		
Subtotal Management			0.308	0.883		0.818		1.782		2.096		Cont	Cont		
Remarks:															
Total Cost			0.565	8.904		8.536		15.640		14.542		Cont	Cont		

Exhibit 4/4a, Schedule Profile/Detail										DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT						PROJECT NUMBER AND NAME		
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Systems						C2275 Radio Systems		
TACTICAL SATELLITE COMMUNICATION TERMINAL (LMST)											
Fiscal Year	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Milestone III (procurement)			◆								
Contract ECP Award		◆									
Terminal Deliveries/Fielding			■	■							
IOC			◆								
FOC					◆						
Ka-band development						■					
Integration Fielding Ka-Band Upgrades						■	■	■			
IOC						◆					
FOC								◆			
Program Funding Summary											
(APPN, BLI #, NOMEN)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost	
(U) RDT&E,N	0.745	0.000	1.300	0.700	0.200	0.202	0.300	0.302	Cont	Cont	
(U) PMC BLI# 463300 Radio Systems (LMST)	8.934	17.157	4.336	11.195	4.813	1.292	1.131	1.385	Cont	Cont	

Exhibit 4/4a, Schedule Profile/Detail								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME			
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Systems					C2275 Radio Systems			
Command & Control On-the-move Network, Digital Over-the-horizon Relay (CONDOR)											
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	
Milestones		◆ MS B	◆ MS C								
Life-Cycle Cost Estimate	■										
Technical Studies	■	■									
Gateway Optimization	■	■									
Gateway LTA/LUE	◆	◆									
PoP-V Prototype Development	■	■									
JC2-V Prototype Development	■	■	■								
DT (Gateway)	■	■									
DT (PoP-V)		■	■								
DT (JC2-V)			■	■							
LRIP (Gateway)			■	■							
OT (Gateway)			■	■	■	■					
OT (PoP-V)				■	■	■					
OT (JC2-V)					■	■					
Production (Gateway)				■	■	■	■				
Fielding (Gateway)				■	■	■	■	■			
IOC (Gateway)				◆							
FOC (Gateway)								◆			

Program Funding Summary											
(APPN, BLI #, NOMEN)											
(U) RDT&E,N		0.000	0.000	6.020	5.325	7.390	6.170	1.610	0.760	0.000	27.275
(U) PMC BLI# CONDOR		0.000	0.000	3.854	8.395	8.403	8.213	5.882	0.000	0.000	34.747

Exhibit 4/4a, Schedule Profile/Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Communication Systems				PROJECT NUMBER AND NAME C2275 Radio Systems			

CONDOR SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Milestones (B) and ©		1st Qtr	1st Qtr						
Life Cycle Cost Estimate	2-3rd Qtr								
Technical Studies	1Q	2Q							
Gateway Optimization	1Q	-----	1stQ						
Gateway LUE	3rd Qtr	2Q							
PoP-V Prototype Development	1Q	-----	1Q						
JC2-V Prototype Development	1Q	-----	3Q						
DT (Gateway)	1Q	4Q							
DT (PoP-V)		1Q	4Q						
DT (JC2-V)			1Q	4Q					
LRIP Gateway			2-4th Qtr						
OT Gateway			3Q	-----	-----	4Q			
OT (PoP-V)				3Q	-----	4Q			
OT (JC2-V)					3Q	4Q			
Production (Gateway)				1Qtr	-----	-----	4Q		
Fielding (Gateway)				3Q	-----	-----	-----	2Q	
IOC Gateway				2Q					
FOC Gateway								3Q	

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communication Systems

PROJECT NUMBER AND NAME
C2275 Radio Systems

Wireless Cable Replacement (WCR)

FISCAL YEARS	FY06	FY07	FY08	FY09	FY10	FY11	To Complete
Testing							
MOT&E, MCOTEA		▲					
DT/OT, MCTSSA		▲					
Procurement							
LRIP Purchase		10	0	0	0		10
End Item Procurement			40	86	36	26	188
Total Procurement							198
Milestones							
Milestone B Decision	▲MS 'B'	LRIP					
LRIP Decision		▲					
Milestone C/FRP Decision		▲	MS 'C'				
Fielding Decision (FD)		FD ▲					
Operational Capability							
Initial Operational Capability (IOC)			IOC ▲				
Full Operational Capability				FOC ▲			

Program Funding Summary

FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011

To Compl Total Cost

(APPN, BLI #, NOMEN)

(U) RDT&E,N	0.000	0.000	0.000	1.110	0.000	0.000	0.000	0.000	Continuing	Continuing
(U) PMC BLI#463300 Wireless Cable Replacement	0.000	0.000	0.000	0.785	4.023	8.359	3.700	2.916	Continuing	Continuing

Exhibit 4/4a, Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C2275 Radio Systems

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys			PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		6.944	3.720	6.220	7.642	7.094	4.891	1.938
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>(U) The Network Planning and Mangement (NPM) is a portfolio of communications planning and Network Management System (NMS) applications for use throughout the Marine Air Ground Task Force (MAGTF). NPM includes JNMS and the Systems Planning Engineering and Evaluation Device (SPEED). JNMS provides the MARFOR component planners with the Joint mandated software needed to conduct high-level planning; detailed planning and engineering; monitoring; control and reconfiguration; spectrum planning and management; and security in support of Combatant Commander (COCOM) and Commander, Joint Task Force (CJTF) operations. SPEED is software used for Radio Frequency (RF) communications analysis by JNMS, other Services and for System Planning and Engineering (SPE) throughout the MAGTF. SPEED provides High Frequency (HF) predictions, Line of Site (LOS) propagation, Radio Coverage Analysis (RCA) and related communications network planning and management.</p> <p>(U) The Transition Switch Module (TSM) will provide a flexible Unit Level Switch that bridges legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program will maintain USMC joint interoperability as all Services transition to COTS switching technologies.</p> <p>(U) The Tactical Data Network (TDN) augments the existing Marine Air Ground Task Force (MAGTF) communications infrastructure to provide the commander an integrated data network, forming the communications backbone for Tactical Data Systems (TDS) and the Defense Messaging System (DMS). TDN consists of Gateways (AN/TSQ-222) and Data Distribution Systems (AN/TSQ-228), interconnected with one another and their subscribers via a combination of common user long-haul transmission systems, local area networks (LAN), and switched telephone systems. The TDN PIP provides a smaller and more mobile variant DDS for the Battalion, Secure Wireless LAN capability for enhanced mobility, integrates security interdiction products into the Gateway; and provides critical refresh of non-MCHS network components such as routers, switches, converters, and tactical peripherals.</p> <p>(U) The Expeditionary Command and Control Suite (ECCS) is a transit case solution that provides SIPRNET email and web access, secure VTC, C2PC/COP and collaborative planning (DCTS) DISA Standard to initial response teams to communicate with higher HQ until larger C2 systems are established. This is an On-The-Move/Enroute capability.</p> <p>(U) The First In Command and Control System (FICCS) is an integrated, processor-controlled communications and management system, housed in a S-788/G Lightweight Multipurpose Shelter (LMS), providing secure and non-secure voice and data communications, switching functions, network routing and management, and global broadcast functions. The S-788/G LMS is mounted on a Heavy-variant High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) and can be connected to a quick-erect general purpose tent.</p>								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007			
Accomplishment/Effort Subtotal Cost		1.391	1.001	0.000	0.000			
RDT&E Articles Qty								
NPM: JNMS MS C and FRP. Operational Tests for JNMS and Developmental work for SPEED RF analysis enhancement.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE:		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2276 Communications Switching & Control Systems		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.843	2.321	
RDT&E Articles Qty					
NPM: Develop unique USMC models for JNMS and Developmental work for SPEED Net Centric enhancements.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	4.164	1.610	0.000	0.000	
RDT&E Articles Qty					
TSM: Development and testing of Engineering Development Models (EDM).					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.671	1.140	
RDT&E Articles Qty					
TSM: Development of cellular telephone and Voice over IP (VoIP) capability for integration into TSM EDMs and test for interoperability/operational suitability.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.500	1.500	
RDT&E Articles Qty					
ECCS: Develop and test miniaturized components that provide DISN services while On-The-Move/Enroute.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	1.389	1.109	1.081	1.155	
RDT&E Articles Qty					
FICCS: Continue Development of miniaturization of hardware solutions, collaborate with MCTSSA SIE and conduct Interoperability Testing at JITC/Gigabite Ethernet, and Wireless Telephone Technology into the FICCS Platform.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.125	0.000	
RDT&E Articles Qty					
TDN: Test and Evaluate integrated software requirements.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	1.526	
RDT&E Articles Qty					
TDN: Test and integrate secure wireless LAN technologies into the TDN DDS platform.					
(U) Total \$	<u>6.944</u>	<u>3.720</u>	<u>6.220</u>	<u>7.642</u>	

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EXHIBIT R-2a, RDT&E Project Justification					DATE:	February 2005					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communications Sys				C2276 Communications Switching & Control Systems					
(U) PROJECT CHANGE SUMMARY:											
		FY 2004	FY 2005	FY 2006	FY 2007						
(U) FY 2005 President's Budget:		6.449	3.803	4.663	3.913						
(U) Adjustments from the President's Budget:											
(U) Congressional/OSD Program Reductions											
(U) Congressional Rescissions											
(U) Congressional Increases											
(U) Reprogrammings		0.539		1.500	3.638						
(U) SBIR/STTR Transfer		-0.044									
(U) Minor Affordability Adjustment			-0.083	0.057	0.091						
(U) FY 2006 President's Budget:		6.944	3.720	6.220	7.642						
CHANGE SUMMARY EXPLANATION:											
(U) Funding: See Above.											
(U) Schedule: Not Applicable.											
(U) Technical: Not Applicable.											
(U) C. OTHER PROGRAM FUNDING SUMMARY:											
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost	
(U)PMC BLI 463400 Communications Switching and Control Systems											
NPM (JNMS)	0.001	5.254	6.894	3.570	2.222	0.000	0.000	0.000	0.000	17.941	
ECCS	0.000	0.000	0.000	0.000	12.172	3.705	3.528	0.645	0.000	20.05	
FICCS	12.879	11.243	11.469	1.950	0.765	0.843	0.000	0.000	0.000	39.149	
TSM	0.000	0.000	29.085	34.005	20.033	8.056	0.000	0.000	0.000	91.179	
(U)PMC BLI 468800 Transition Switch Module											
TSM	9.218	9.209	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.427	
(U) Related RDT&E: Not Applicable.											

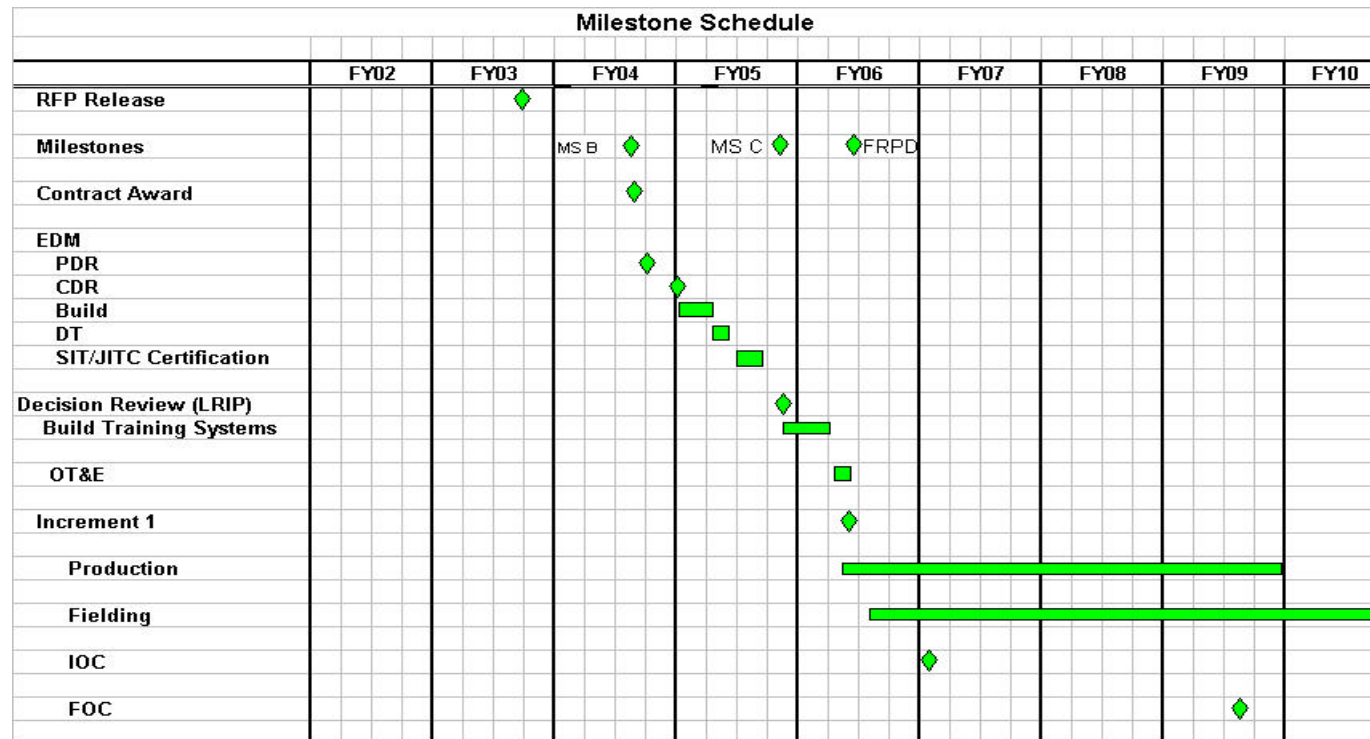
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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems
<p>(U) D. ACQUISITION STRATEGY NPM: NPM uses the Joint Army-led acquisition strategy for JNMS. This is an evolutionary strategy with an initial Build to include all KPP and Threshold requirements. It is followed by pre-planned Builds to incorporate Objective requirements. The JNMS contract method is competitive with a Cost Plus contract for development that is centrally funded by the Army, except for any unique Service requirements. Services are responsible for procurement, fielding and support costs. The production contract is Fixed Price and the fielding and support is Time and Material (T&M). The JNMS acquisition strategy emphasizes the use of Commercial Off The Shelf (COTS) and Government-off-the-Shelf (GOTS) products. The SPEED acquisition strategy is for spiral development. The SPEED contract method is through a sole source Basic Purchase Agreement (BPA) using Fixed Price Task Orders based on the developers GSA schedule for manhours.</p> <p>(U) D. ACQUISITION STRATEGY TSM: The TSM acquisition strategy calls for use of FY04 and FY05 R&D to develop and demonstrate a system of sufficient maturity for production. There will be a single contract award for Low Rate Initial Production (LRIP), testing and full-rate production after successful completion of test. FY06 and FY07 R&D will be used to develop potential cellular telephone and Voice over IP (VoIP) technology for insertion into the TSM Engineering Development Models (EDMs). They will then be tested prior to incorporating them into the TSM production systems.</p> <p>(U) D. ACQUISITION STRATEGY ECCS: ECCS will use the evolutionary acquisition strategy and pursue a competitive firm fixed price contract. Major concerns will be interoperability and compatibility with existing systems and components. R&D effort will focus on developing and integrating "miniaturized" version of existing components. Emerging technologies such as VoIP and Secure Wireless will also be addressed in the out year R&D effort.</p> <p>(U) D. ACQUISITION STRATEGY FICCS: FICCS will use the evolutionary acquisition strategy with the Block I variant consisting of the initial three JECCS systems. These systems are to be fielded during FY-04, with over \$1M of proposed Office of Naval Research Science and Technology (ONR S&T) and \$80K Extended Littoral Battlespace Advanced Concept Technology Demonstration (ELB ACTD) (Wireless) efforts, FICCS Block II will consist of eleven (11) JECCS production units, which will include upgrades to emerging hardware/software. Exploring the Block II/III R&D effort, FICCS Block III will incorporate emerging technologies such as VoIP, Secure Wireless, and possible ATM. into TDN equipment. RDTE funding in FY06 and FY07 are to be used to test and evaluate Commercial Of The Shelf (COTS) items which will be integrated into TDN Gateways and Data Distribution Systems (DDS) to fulfill ORD requirements.</p> <p>(U) E. Major Performers:</p> <p>FY05 - (NPM) NGIT, Winterpark, FL. SPEED enhancements; CECOM, Momouth, NJ. USMC JNMS adapters, MCOTEA, Quantico, VA, and FMF IOT&E support, JAN 05</p> <p>FY06 - (NPM) NGIT, Winterpark, FL. SPEED enhancements; CECOM, Momouth, NJ. USMC JNMS adapters, JAN 06</p> <p>FY04/05 - (TSM) TBD, Prime Contractor, TSM prototype design/build/test, Jun 04</p> <p>FY 06/07 - (TSM) TBD, Prime Contractor, Integration and test of VoIP and Wireless technology</p> <p>FY06 - (ECCS) - Contractor TBD. Develop and test miniaturized components that provide DISN services while On-The-Move/Enroute.</p> <p>FY07(ECCS) - Contractor TBD. Develop and test miniaturized components that provide DISN services while On-The-Move/Enroute.</p> <p>FY05 - (FICCS) Darlington, Inc., Wando, SC. Hardware miniaturization and colaboration/testing with MCTSSA SIE & JITC, OCT 05</p> <p>FY06 - (FICCS) EDO/Darlington, Inc., Wando, SC. Integration of VoIP, Secure Wireless, and ATM Technolgoies, OCT 06</p> <p>FY07 (FICCS) - EDO/Darlington, Inc., Wando, SC. Integration of VoIP, Secure Wireless, and ATM Technologies, OCT 07</p> <p>FY06 (TDN) - TBD</p> <p>FY07 (TDN) - TBD</p>		

Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev			PROGRAM ELEMENT 0206313M Marine Corps Communications S			PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
NPM (JNMS)	CP	CECOM, Monmouth, NJ	0.114	0.151	01/04	0.280	01/05			0.800	01/07	Cont	Cont	
NPM (SPEED)	FP	NGIT Winterpark, FL	0.722	0.683	01/04	0.320	01/05	0.500	01/06	1.100	01/07	Cont	Cont	
ECCS	FFP	MCSC, Quantico, Va						0.900	11/05	0.600	11/06	Cont	Cont	
FICCS	CPFF	GSA	0.000	0.682	01/04	0.000						0.000	0.682	
FICCS	CPFF	EDO/Darlington, Inc.		0.000	04/04	0.612	03/05	0.661	02/06	0.735	02/07	Cont	Cont	
TSM	FFP	MCSC, Quantico, Va	0.884	3.593	06/04	1.385	10/04	1.671	10/05	1.140	10/06	Cont	Cont	
Subtotal Product Dev			1.720	5.109		2.597		3.732		4.375		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
NPM (Program Support)	WR	MCSC/MCTSSA	0.164	0.150	01/04	0.142	10/04	0.143	10/05	0.150	10/06	Cont	Cont	
NPM (Support Contractor)	FP	CTQ/NGIT	0.355	0.329	01/04	0.121	10/04	0.200	10/05	0.271	10/06	Cont	Cont	
ECCS	FFP	Support Contractor						0.600	11/05	0.600	11/06	Cont	Cont	
FICCS	CPFF	Support Contractor	0.000	0.450	12/04	0.000	10/04	0.300	11/05	0.400	11/06	Cont	Cont	
TSM	FFP	NGIT, Aquia, VA	0.716	0.498	10/04	0.000						Cont	Cont	
TDN	FFP	NGIT, Aquia, VA						0.225	11/05	0.305	11/06	Cont	Cont	
Subtotal Support			1.235	1.427		0.263		1.468		1.726		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
JNMS	WR	MCOTEA/FMF	0.065	0.078	12/03	0.138	10/04					0.000	0.281	
ECCS	WR	MCOTEA								0.300	12/06	Cont	Cont	
FICCS	WR	MCTSSA	0.000	0.257	01/04	0.020	10/04	0.020	11/05	0.020	11/06	Cont	Cont	
FICCS	WR	JITC		0.000		0.120	02/05	0.100	03/06			0.000	0.220	
FICCS	WR	MCOTEA/FMF		0.000		0.357	03/05					0.000	0.357	
TSM	FFP	CECOM, FT Monmouth, NJ	0.243	0.000	11/03	0.000	12/04					0.000	0.243	
TSM	WR	MCOTEA	0.199	0.073	11/04	0.225	10/05					0.000	0.497	
TDN	FFP	TBD						0.900	11/05	1.221	11/06	Cont	Cont	
Subtotal T&E			0.507	0.408		0.860		1.020		1.541		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal Management			0.000			0.000						0.000	0.000	
Remarks:														
Total Cost			3.462	6.944		3.720		6.220		7.642		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDTE, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems

TRANSITION SWITCH MODULE



Program Funding Summary

(APPN, BLI #,

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDTE&E,N	4.164	1.610	1.671	1.140	0.906	0.921	0.300	0.315	0.000	11.027
(U) PMC BLI# 468800 Transition Switch Module (TSM)	9.218	9.209	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.427
(U) PMC BLI# 463400 Comm Switch & Control Sys	0.000	0.000	29.085	34.005	20.033	8.056	0.000	0.000	0.000	91.179

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

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Exhibit R-4/4a Schedule Profile/Detail				DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT		PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev		0206313M Marine Corps Communications Sys		C2276 Communications Switching & Control Systems				
NPM (JNMS)								
	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
JNMS PEO/C3T MS C (LRIP)		◆ 4/28		◇				
JNMS PEO/C3T FRP Decision				◇				
JNMS Software Development	■	■	■	■	■	■	■	■
JNMS Build 1.1 FQT, Integ Test	■	■						
JNMS NET & IOT&E		■	■					
JNMS Build 1.2/1.3 FQT, Re Test		■	■					
JNMS Follow-on NET & OT&E			■	■				
PEO/C3T MS C (LRIP) UPDATE			■					
JNMS First Units Equipped (FUE)			■	■	■	■	■	■
USMC JNMS Decision/Orders			■	■	■	■	■	■
USMC JNMS FRP Fieldings				■	■	■	■	■
SPEED Spiral Software Develop	■	■	■	■	■	■	■	■
SPEED Next Major Release 10			■					
PDSS/Software Maintenance			■	■	■	■	■	■

Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(APPN, BLI #, NOMEN)										
(U) RDT&E,N	1.391	1.001	0.843	2.321	2.176	0.330	0.000	0.000	Cont	Cont
(U) PMC BLI# 463400 CommSwitch& Ctl Sys -NPM (JNMS)	0.001	5.254	6.894	3.570.	2.222	0.000	0.000	0.000	0.000	14.371

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

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Exhibit R-4/4a Schedule Profile/Detail					DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev		0206313M Marine Corps Communications Sys			C2276 Communications Switching & Control Systems						
FICCS											
Milestone Schedule / Total Resource Summary											
	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Milestone III & Contract Award (LRIP)		◆ Sep 01									
Production (LRIP)				Oct 01-Jul 03							
Fielding of Increment 1 (LRIP)				◆ Jun 04							
Prod Decision (Increment 2)				◆ Mar 04							
IOC (3 JECCS)				◆ Jun 04							
Production (Increment 2)						Aug 04-Mar 06					
Fielding (Increment 2)							Jun 05-Apr 06				
R&D/DT (Increment 3)						Jan 05-Dec 05					
Production (Increment 3)							Jan 06-May 07				
Fielding (Increment 3)								Jun 06-Jun 07			
R&D/DT (Increment 4)							Jan 06-Dec 06				
Production (Increment 4) (JECCS Variants)								Oct 06- Dec 07			
FOC						◆ Jun 06					
Fielding (Increment 4)								Mar 07-Feb 08			
R&D-Technology Insertion										Jan 06-Sep 09	
Production Mods/Installation Kits										Jan 08- Jun 11	

Program Funding Summary		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(APPN, BLI #, NOMEN)											
(U) RDT&E,N		1.389	1.109	1.081	1.155	1.681	1.930	0.530	0.555	0.000	9.430
(U) PMC	BLI# 463400 Comm Switch & Ctrl Sys - FICCS	12.879	11.243	11.469	1.950	0.765	0.843	0.000	0.000	0.000	39.149

Exhibit R-4/4a Schedule Profile/Detail		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDTE,N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems

FICCS SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Fielding Decision - Increment 1 (LRIP)	3rdQ							
Production Decision - Increment II	2ndQ							
Full Rate Production of Increment II	4C-----		2Q					
Fielding Decision - Block II		3Q	4Q					
Increment III R&D		2Q 05----	1Q					
Increment III Production			2Q	3Q				
Increment III Fielding			3Q	3Q				
R&D/DT Increment 4			2Q	1Q				
Production Increment 4 (JECCS Variant)				1Q	1Q			
FOC			3Q					
Fielding Increment 4				2Q	2Q			

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

ECCS

[illegible]

Program Funding Summary

<u>Program Funding Summary</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
<u>(APPN, BLI #, NOMEN)</u>										
(U) RDT&E,N	0.000	0.000	1.500	1.500	2.180	1.090	1.108	0.947	0.000	8.325
(U) PMC BLI# 463400 Comm Switch & Ctrl Sys - ECCS	0.000	0.000	0.000	0.000	12.172	3.705	3.528	0.645	0.000	20.050

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Syst			PROJECT NUMBER AND NAME C2277 Systems Engineering & Integration																		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011															
Project Cost	9.225	7.787	9.697	8.877	9.183	9.363	9.686	9.909															
RDT&E Articles Qty																							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) This project provides funds for engineering, test, and evaluation activity, which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and, to the maximum extent feasible, use hardware, and software which is uniform across programs.</p> <ol style="list-style-type: none"> 1. The Joint Distributed Engineering Plant (JDEP) is a DoD mandated program to evaluate the interoperability of the Federation of Systems (FedOS) C4ISR configurations that support joint forces, evaluate the interoperability of new acquisition systems, and provide an environment for engineering analysis to correct systems deficiencies and develop new capabilities. 2. The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)/DoD-mandated program for joint development, implementation, and testing of data links under the direction of the Defense Information Systems Agency (DISA). 3. The Coalition Warrior Interoperability Demonstration (CWID) (a.k.a. Joint Warrior InterOperability Demonstration (JWID)) is a Joint Chiefs-of-Staff (JCS) and a Chairman of the Joint annual event. CWID remains the premier event to investigate interagency and coalition interoperability problems. CWID defines solutions that can be applied in the operational community. CWID's mission is to conduct military operations to deter, prevent, and defeat threats and aggressions aimed at the US , its territories and assigned areas of responsibilities as directed by the President or Secretary of Defense. 4. The Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, Coordination. (MAGTF C4I SEI&C) subproject is a non-acquisition effort which provides centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies and manages the configuration of the Marine Corps Enterprise Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It is also used to conduct annual Federation-of-Systems (FEDOS) testing to determine the performance of critical Marine Corps systems-of-systems, directly supporting the Marine Corps Operating Forces. <p>(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:</p> <table border="1"> <tr> <td>COST (\$ in Millions)</td> <td>FY 2004</td> <td>FY 2005</td> <td>FY 2006</td> <td>FY 2007</td> </tr> <tr> <td>Accomplishment/Effort Subtotal Cost</td> <td>0.700</td> <td>1.580</td> <td>1.452</td> <td>1.456</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>MAGTF SEI&C (JDEP): DoD mandated program to evaluate the interoperability of the Federation of Systems (FoS) C4ISR configurations that support joint forces, evaluate the interoperability of new acquisition systems, and provide an environment for engineeri</p>									COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	Accomplishment/Effort Subtotal Cost	0.700	1.580	1.452	1.456	RDT&E Articles Qty				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007																			
Accomplishment/Effort Subtotal Cost	0.700	1.580	1.452	1.456																			
RDT&E Articles Qty																							

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Syst	PROJECT NUMBER AND NAME C2277 Systems Engineering & Integration		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.986	1.742	1.496	1.533
RDT&E Articles Qty				
JINTACCS: Joint development, implementation, and testing of data links under the direction of the Joint Interoperability Engineering Organization (JIEO).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.097	1.168	1.213	1.242
RDT&E Articles Qty				
CWID: to deter, prevent, and defeat threats and aggressions aimed at the US.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	6.442	3.297	5.536	4.646
RDT&E Articles Qty				
MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems and its migration to the DII COE. Assist Program Group Managers in meeting C4I Support Plans (KPPs). Maintain MSTAR system as technical roadmap to MAGTF C4				
(U) Total \$	<u>9.225</u>	<u>7.787</u>	<u>9.697</u>	<u>8.877</u>
(U) PROJECT CHANGE SUMMARY:				
	FY2004	FY2005	FY2006	FY2007
(U) FY 2005 President's Budget:	8.762	7.960	9.567	8.744
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	0.545			
(U) SBIR/STTR Transfer	-0.082			
(U) Minor Affordability Adjustment		-0.173	0.130	0.133
(U) FY 2006 President's Budget:	9.225	7.787	9.697	8.877
CHANGE SUMMARY EXPLANATION:				
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Syst	PROJECT NUMBER AND NAME C2277 Systems Engineering & Integration	
(U) C. OTHER PROGRAM FUNDING SUMMARY:			
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
N/A			
(U) Related RDT&E:			
(U) PE 0206623M, Marine Corps Ground Combat/Supporting Arms Systems			
(U) D. ACQUISITION STRATEGY:			
JDEP, JINTACCS, CWID, & MAGTF SE&IC: N/A as these are non-acquisition programs.			
(U) E. Major Performers: FY02-FY05 Northrup Grumman, Stafford VA - Level of effort contract for logistics support, engineering, analytical, acquisition and program management for C4I programs in the areas of systems architectures, configuration management, interoperability and integration. A43			

Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Systems				C2277 Systems Engineering & Integration							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CWID	MIPR	JPO Ft Monmouth NJ	1.977	0.506	12/04	0.680	12/04	0.700	12/06	0.750	12/06	Cont	Cont	
CWID	WR	MCSC Quantico, VA	0.073	0.043	10/04	0.030	10/04	0.040	12/06	0.045	12/06	Cont	Cont	
Subtotal Product Dev			2.050	0.549		0.710		0.740		0.795		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CWID	C/FFP	NGIT, Stafford VA	1.176	0.548	10/03	0.458	10/04	0.473	12/05	0.447	12/06	Cont	Cont	
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	1.467	2.949	10/03	1.909	10/04	3.684	10/05	2.753	10/06	Cont	Cont	
MAGTF SEI&C	WR	MCSC, Quantico, VA	0.618	0.150	10/03	0.155	10/04	0.158	10/05	0.161	10/06	Cont	Cont	
JDEP	WR	NSWC Dahlgren, VA	0.151	0.100	01/04							Cont	Cont	
JDEP	T&M	SENSIS Syracuse NY	0.593	0.000	05/04	0.066	05/05	0.063	05/06	0.069	05/07	Cont	Cont	
JDEP	MPR	DISA	0.017	0.307	02/04	0.313	02/05	0.319	02/06	0.326	05/07	Cont	Cont	
JINTACCS	C/FFP	NGIT, Stafford VA	0.151	0.442	10/03	0.693	10/04	0.389	10/05	0.404	10/06	Cont	Cont	
JINTACCS	WR	MCTSSA, Cp Pndltm, CA	0.017	0.544	10/03	1.049	10/04	1.107	10/05	1.129	10/06	Cont	Cont	
Subtotal Support			4.173	5.040		4.643		6.193		5.289		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JDEP	WR	MCTSSA, Cp Pndltm, CA	0.363	0.293	04/04	1.201	10/04	1.070	10/05	1.061	10/06	Cont	Cont	
MAGTF SEI&C	RC	MCTSSA, Cp Pndltm, CA		3.119	10/03	0.899	10/04	1.350	10/05	1.378	10/06	Cont	Cont	
Subtotal T&E			0.000	3.412		2.100		2.420		2.439		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	0.180	0.224	10/03	0.334	10/04	0.344	10/05	0.354	10/06	Cont	Cont	
Subtotal Management			0.180	0.224		0.334		0.344		0.354		Cont	Cont	
Remarks:														
Total Cost			6.403	9.225		7.787		9.697		8.877		Cont	Cont	

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys			PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	20.876	22.535	16.253	15.742	12.489	6.217	5.362	5.669
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) This project encompasses two sub-element programs which are part of the Integrated Air Defense System for the Marine Corps. <p>1. The Complementary Low Altitude Weapons System (CLAWS) is a mobile ground based air defense missile system designed to defeat threat cruise missiles unmanned aerial vehicles, rotary wing and fixed wing aircraft. CLAWS shall provide a rapidly deployable, mobile, high firepower, all-weather, standoff air defense system to defend Marine Expeditionary Forces and Naval Forces from attack by cruise missiles, aircraft and UAVs. It shall complement existing Short Range Air Defense (SHORAD) capabilities and shall interface with current and proposed Marine Air Command and Control Systems, sensors, and data paths. CLAWS Block 0 will provide the initial capability. CLAWS Block I will align with and become the launcher for Army Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) Block I program. The Marine Corps relies on the Army SLAMRAAM Block I program to develop the final threshold capability with the CLAWS Block I launcher and the Integrated Fire Control System (IFCS).</p> <p>2. The Low Altitude Air Defense (LAAD) Sustainment Transformation (S/T), formerly known as LAAD Sustainment, provides the LAAD Battalions with the technologies/equipment required to maintain a ground-based air defense capability in support of the Marine Air Ground Task Force (MAGTF) and joint/coalition forces. Funding will support the research and development of the next-generation air defense weapon that will facilitate the transformation of the LAAD Battalions into a true, multi-mission, force protection asset. The next generation weapon is envisioned to be the net-centric command and control node with a robust sensor suite and the ability to fire existing and future missiles. It is desired that the first block of this capability be fielded by FY08 with the ability to fire the Stinger missile.</p> <p>3. Pedestal Mounted Stinger (PMS) or "Avenger" is a turreted, lightweight, highly mobile gun/missile hybrid mounted on a heavy HMMWV. The system delivers eight ready to fire Stinger missiles and 285 rounds of .50 caliber ammunition in a single upload. An upgraded Land Navigation System assists the slew-to-cue capability and the Forward Looking Infra Red Device provides a day/night and reduced visibility capability. Funding will support the transition from the Avenger solution to the next-generation solution.</p> <p>4. Mounted Cooperative Target ID System (MCTIS) (formerly known as Combat Identification (CID)) - will be a cooperative battlefield target identification device that employs encrypted, Ka band, millimeter wave, question and answer technology. It will consist of interrogator and transponder antennae, transceiver, and communications/electrical interface unit. It will be fielded as two variants: interrogator/transponder system for Advanced Amphibious Assault Vehicles (AAAVs), Light Amphibious Vehicles (LAVs), and M1A1s; and transponder-only system for combat support and combat service support vehicles. When fielded, mounted weapon systems will have the capability to identify targets as friendly or unknown, at ranges to 6 km, before engaging them. They and all other designated vehicles will also possess the capability to rapidly identify themselves as friendly to weapon systems equipped with comparable systems prior to being engaged. As a result, incidents of fratricide and collateral damage will decline, while the range at which targets may be engaged without fear of misidentification will increase dramatically. The system will be interoperable with Joint, Allied, and coalition forces' cooperative target identification systems.</p>								
(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost	5.407	3.695	1.141	0.622				
RDT&E Articles Qty								
CLAWS: Development, design, test and integration issues related to the four Production Representative Systems and a Milestone C Decision for for 2 Production Representative Systems (PRS) launchers.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev			February 2005	
PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys			PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	5.392	4.475	0.480	1.920
RDT&E Articles Qty				
CLAWS: Complete Block 0 Developmental Testing (DT) and develop capability with the CLAWS Block I launcher and the IFCS.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	3.184	6.500	0.000	0.434
RDT&E Articles Qty				
CLAWS: Operational Testing (OT)for CLAWS Block 0 and CLAWS/SLAMRAAM Block I.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	2.967	3.535	1.467	1.155
RDT&E Articles Qty				
CLAWS: Program Management Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.739	0.000	2.483	0.996
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Program Management Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.298	0.000	0.000	0.000
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Provides EADS V 7.4.2 and 8.0/Vx work development, integration and test activity				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.703	0.000	0.000	0.000
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Provides for Weapons System enhancement development and test, independent test and evaluation.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.064	0.000	0.000	0.000
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Provides EADS and AFCC integration development and test activity				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	1.976	6.682	6.219
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Development of the next generation Air Defense Weapons system				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.396
RDT&E Articles Qty				
LAAD SUSTAINMENT TRANSFORMATION: Stinger Ground Support Equipment enhancements				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.130	0.188	0.000	0.000
RDT&E Articles Qty				
PMS: Program management Support				

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EXHIBIT R-2a, RDT&E Project Justification				DATE:		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		February 2005		
RDT&E, N /BA-7 Operational Sys Dev		0206313M Marine Corps Communications Sys		C2278 Air Defense Weapons Systems		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.207	0.000	0.000	0.000	
RDT&E Articles Qty						
PMS: Provide for utilization of test articles and integration efforts in support of OIF. Integration efforts for the FLIR, ECU/PPU and communicatio system for the Avenger						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.871	0.966	1.000	1.000	
RDT&E Articles Qty						
MCTIS: Program management support.						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.550	0.500	1.000	1.000	
RDT&E Articles Qty						
MCTIS: Test and evaluation as part of the coalition CID ACTD program.						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.179	0.300	1.200	1.200	
RDT&E Articles Qty						
MCTIS: Engineer Design Model.						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.185	0.150	0.300	0.300	
RDT&E Articles Qty						
MCTIS: Risk reduction.						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost		0.000	0.250	0.500	0.500	
RDT&E Articles Qty						
MCTIS: Support software development.						
(U) Total \$			20.876	22.535	16.253	15.742
(U) PROJECT CHANGE SUMMARY:		FY2004	FY2005	FY2006	FY2007	
(U) FY 2005 President's Budget:		23.338	22.765	6.429	11.075	
(U) Adjustments from the President's Budget:						
(U) Congressional Program Reductions						
(U) Congressional Rescissions						
(U) Congressional Increases						
(U) Reprogrammings						
		-1.883		10.266	5.163	
(U) SBIR/STTR Transfer		-0.557				
(U) Minor Affordability Adjustment		-0.022	-0.230	-0.442	-0.496	
(U) FY 2006 President's Budget:		20.876	22.535	16.253	15.742	
CHANGE SUMMARY EXPLANATION:						
(U) Funding: See Above.						
(U) Schedule: Not Applicable						
(U) Technical: Not Applicable.						

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev			0206313M Marine Corps Communications Sys			C2278 Air Defense Weapons Systems				
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC LINE BLI 489000 CLAWS	0.000	4.395	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.395
(U) PMC LINE BLI 305100 CLAWS	0.000	0.000	0.442	3.145	2.345	33.581	37.887	34.041	Cont	Cont
(U) PMC LINE BLI 300600 LAAD S/T	1.901	10.275	1.997	3.872	9.958	17.377	17.503	20.322	Cont	Cont
(U) PMC LINE BLI 301300 PMS	0.782	9.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.747
(U) Related RDT&E:										
PE 0603216C (Ballistic Missile Defense Organization, Theater Missile Defense)										
(U) D. ACQUISITION STRATEGY:										
(U) CLAWS: CLAWS integrates government furnished equipment (GFE), non-developmental items (NDI) and new technology to develop a surfaced launched Anti-Air launcher. CLAWS will utilize the AMRAAM (current inventory DoD missile), existing High Mobility Multi-purpose Wheeled Vehicle (HMMWV) and contractor developed missile launch platform. CLAWS will complete Developmental Test (DT) and Operational Test (OT) in FY04/05 to provide a FY06 Initial Operational Capability (IOC). CLAWS provides a Joint Emergency Operational Capability from FY06-FY09 and provides concept validation and risk mitigation for the SLAMRAAM program. CLAWS Block I will align with and become the launcher for SLAMRAAM Block I. Marine Corps relies on SLAMRAAM Block I program to develop the final threshold capability with the CLAWS Block I launcher and the Integrated Fire Control System (IFCS).										
(U) LAAD SUSTAINMENT TRANSFORMATION: The LAAD Sustainment Transformation Program, formerly know as LAAD Sustainment supports the Stinger, Advanced Medium Range Air-to-Air Missile (AMRAAM) and future based weapon systems by managing six separate areas: Concept and Development of the Future Weapons System, Expeditionary Air Defense Systems (EADS) hardware and software, Trainers and Simulators, Missiles, Ground Support Equipment (GSE), and the Avenger. The LAAD Sustainment Transformation acquisition strategy is to repair, sustain, or replace LAAD systems experiencing readiness degradation due to obsolescence. Examples include the replacement of RemoteTerminal Units, shelf life extensions to USMC Stinger Missiles, upgrading trainers to tactical configuration and upgrading the present target configurations. LAAD Sustainment Transformation will leverage Joint interests in every available endeavor.										
(U) PEDESTAL MOUNTED STINGER: A pending MROC decision is anticipated to divest the Avengers from the USMC inventory by the 2009/2010 timeframe.										
(U) MCTIS: Economy of scales dictate a strategy that highly leverages Joint/coalition evolutionary development efforts. The FY03 through FY05 Coalition Combat ID Advanced Concept Technology Demonstration (CCID ACTD) process will evaluate several millimeter wave (mmW) Target Identification systems with the objective of identifying the best system to satisfy the Marine Corps requirement. FY04/05 efforts will focus on unique system integration efforts required on Marine Corps vehicles not already accomplished through similar Joint efforts. It is anticipated system procurement acquisition will be accomplished on a Joint/coalition basis to take advantage of parallel support efforts.										
(U) E. MAJOR PERFORMERS:										
CLAWS:										
FY04 Raytheon, Tewsbury, MA. System Development & Demonstration.										
FY05 Raytheon, Tewsbury, MA. System Development & Demonstration; Operational Testing.										
FY06 Raytheon, Tewksbury, MA. Fielding/sustainment for CLAWS Block 0 Launchers. SLAMRAAM Block I System Development;CLAWS Block I Launcher DT.										
FY07 Raytheon, Tewksbury, MA. System Development and Demonstration; Developmental Test.										
MCTIS:										
FY04-FY07 NSWC, Crane, IN Engineering Services. Oct 04										
FY05-FY07 MarCorSysCom (PA&E) LCCE Effort. Contractor Techolote										
FY05-FY07 MarCorSysCom CEOSS support contract recompeted in Sep 04. Contractor Anteon										

Exhibit R-3 Cost Analysis							DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Sys				C2278 Air Defense Weapons Systems								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract	
CLAWS	RCP	Raytheon, Bedford, MA	12.309	4.531	04/01	3.695	01/05	1.134	01/06	0.615	01/07	Cont	Cont		
LAAD SUSTAINMENT	WR	NSWC, Crane, IN								0.396	10/06	Cont	Cont		
LAAD SUSTAINMENT	RCP	Raytheon, Bedford, MA	0.000	0.145	03/04							0.000	0.145		
LAAD SUSTAINMENT	RCP	Boeing, Huntsville, AL	0.030	0.034	11/03							0.000	0.064		
LAAD SUSTAINMENT	RCP	TBD				1.976	01/05	6.682	10/05	6.219	10/06	Cont	Cont		
PMS	WR	NSWC, Crane, IN		0.207	10/03							0.000	0.207		
MCTIS (CID)	WR	NSWC, Crane, IN	0.176	0.818	06/04	1.000	01/05	2.970	01/06	2.970	01/07	Cont	Cont		
Subtotal Product Dev			12.515	5.735		6.671		10.786		10.200		Cont	Cont		
Remarks:															
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract	
CLAWS	WR	MCSC, Quantico, Va	0.380	0.021	10/01	0.025	01/05	0.025	01/06	0.025	01/07	Cont	Cont		
CLAWS	WR	MCCDC, Quantico, VA	0.200	0.000		0.090	01/05	0.090	01/06	0.090	01/07	Cont	Cont		
LAAD SUSTAINMENT	WR	MCTSSA, Cp Pndltn, CA	0.000					0.440	03/06	0.440	10/06	Cont	Cont		
LAAD SUSTAINMENT	WR	NSWC, Crane, IN	0.000	0.130	09/04			0.660	10/05			Cont	Cont		
LAAD SUSTAINMENT	RCP	AT&T, Vienna, Va	0.000	0.285	03/04							Cont	Cont		
LAAD SUSTAINMENT	MIPR	Redstone Arsenal, AL	0.095	0.005	10/03							0.000	0.100		
LAAD SUSTAINMENT	WR	NSWC, Crane, IN	0.000	0.149	10/03							0.000	0.149		
MCTIS (CID)	RCP	MCSC, Quantico, VA	0.000	0.003	02/04							0.000	0.003		
MCTIS (CID)	WR	MCSC, Quantico, VA	0.030	0.026	02/04	0.030	01/05	0.030	01/06	0.030	01/07	Cont	Cont		
MCTIS (CID)	RCP	MCSC, Quantico, VA	0.947	0.085	09/04	0.157	01/05					0.000	1.189		
MCTIS (CID)	RCP	MCSC, Quantico, VA	0.000	0.070	06/04							0.000	0.070		
MCTIS (CID)	RCP	MCSC, Quantico, VA	0.000	0.007	09/04							0.000	0.007		
Subtotal Support			1.652	0.781		0.302		1.245		0.585		Cont	Cont		
Remarks:															

Exhibit R-3 Cost Analysis							DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Sys				C2278 Air Defense Weapons Systems								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract	
CLAWS	RCP	Raytheon, Tewksbury, MA	2.803	1.196	10/03	1.700	01/05	0.487	01/06	0.557	01/07	Cont	Cont		
CLAWS	RCP	MCSC Quantico, VA		0.646		1.080	01/05					Cont	Cont		
CLAWS	MIPR	White Sands, NM	1.100	1.451	12/03	1.700	01/05			0.434	01/07	Cont	Cont		
CLAWS	WR	MCOTEA, Quantico, VA	0.265	0.460	10/03	1.072	01/05			0.620	01/07	Cont	Cont		
CLAWS	MIPR	Aberdeen, Md	0.181	0.650	10/03	0.000				0.000		Cont	Cont		
CLAWS	MIPR	JSPO, Eglin, AFB, FL	0.150	3.004	10/03	1.260	01/05			0.750	01/07	Cont	Cont		
CLAWS	MIPR	Pt. Mugu, CA		2.045	04/04	2.150	01/05					Cont	Cont		
LAAD SUSTAINMENT	WR	NSWC, Crane, IN		0.100	10/03							Cont	Cont		
MCTIS (CID)	WR	CECOM, Ft Monmouth	0.000	0.055	06/04							Cont	Cont		
Subtotal T&E			4.499	9.607		8.962		0.487		2.361		Cont	Cont		
Remarks:															
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract	
CLAWS	RCP	NGIT, Stafford, VA	2.779	1.425	10/03	3.513	01/05	0.632	01/06	0.320	01/07	Cont	Cont		
CLAWS	WR	MCTSSA Cp Pendleton CA		0.024	10/03	0.050	01/05	0.050	01/06	0.050	01/07	Cont	Cont		
CLAWS	WR	NSWC Crane, IN	0.000	0.618	10/03	0.500	01/05	0.150	01/06	0.150	01/07	Cont	Cont		
CLAWS	MIPR	AMRDEC Redstone Arsenal, AL	0.000	0.598	10/03	0.750	01/05	0.150	01/06	0.150	01/07	Cont	Cont		
CLAWS	RCP	MCSC, Quantico	0.250	0.281	10/03	0.620	01/05	0.370	01/06	0.370	01/07	Cont	Cont		
LAAD Sustainment	RCP	EG&G, Gaithersburg, VA	0.000	0.250	04/04							0.000	0.250		
LAAD Sustainment	RCP	TBD						0.770	10/05			0.000	0.770		
LAAD Sustainment	WR	MCSC, Quantico		0.206	10/03			0.132	10/05	0.159	10/06	Cont	Cont		
LAAD Sustainment	WR	NSWC, Crane, IN		0.500	10/03			0.481	10/05	0.397	10/06	Cont	Cont		
PMS	RCP	EG&G, Gaithersburg, MD		0.130	04/04	0.188	01/04					0.000	0.318		
MCTIS (CID)	RCP	Anteon, Stafford, VA	0.570	0.721	10/04	0.979	10/04	1.000	10/05	1.000	10/06	Cont	Cont		
Subtotal Management			3.599	4.753		6.600		3.735		2.596		Cont	Cont		
Remarks:															
Total Costs				20.876		22.535		16.253		15.742		Cont	Cont		

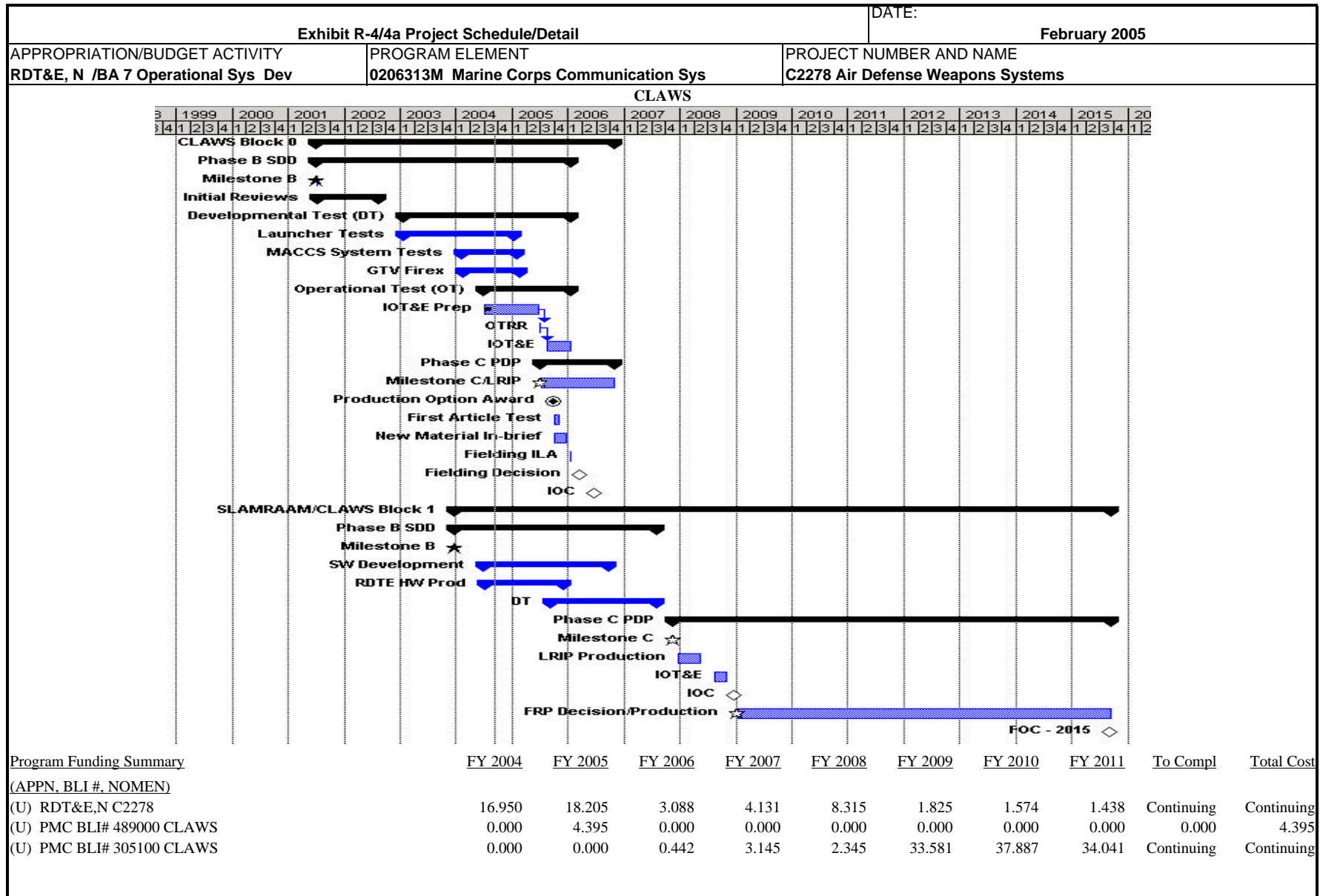


Exhibit R-4/4a Project Schedule/Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Communication Sys				PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems			

CLAWS SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
BLOCK 0								
Development Testing		4TH QTR						
LRIP Decision		3RD QTR						
Operational Testing			1ST QTR					
Fielding Decision			1ST QTR					
Initial Operational Capability			2ND QTR					
BLOCK I								
Development Testing				3RD QTR				
LRIP Production					2ND QTR			
Operational Testing					4TH QTR			
Fielding Decision					4TH QTR			
Initial Operational Capability					4TH QTR			

Exhibit R-4/4a Project Schedule/Detail

DATE:

February 2005

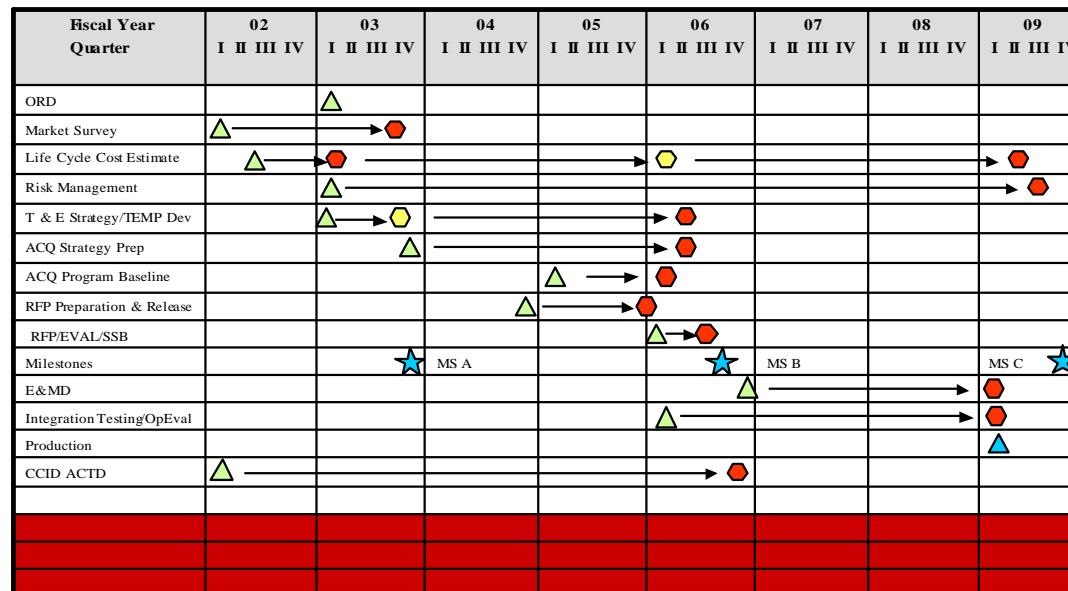
APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communication Sys

PROJECT NUMBER AND NAME
C2278 Air Defense Weapons Systems



MCTIS Program Schedule



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) R&D Air Def Weaps Sys (MTIS)

FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
1.785	2.166	4.000	4.000	0.000	0.000	0.000	0.000	0.000	11.951

Exhibit R-4/4a Project Schedule/Detail					DATE: February 2005																																																																																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Communication Sys			PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems																																																																																																																								
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UNCLASSIFIED									
EXHIBIT R-2a, RDT&E Project Justification						DATE: Febuary 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems				PROJECT NUMBER AND NAME C2315 Training Devices/Simulators			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		8.440	4.804	8.941	7.333	15.023	13.960	10.765	10.884
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) Training simulators supported by this program element include Joint Simulation System (JSIMS), Closed Loop Artillery Simulation System (CLASS), Multiple Integrated Laser Engagement System (MILES 2000), Special Effect Small Arms Marking System (SESAMS), Combined Arms Command & Control Training Upgrade System (CACCTUS), MAGTF Tactical Warfare Simulation (MTWS) Enhancements, Combat Team Decision, and Joint National Training Center (JNTC) Investment. These training systems provide tactical weapons and decision-making skill training from entry level through Marine Air-Ground Task Force (MAGTF) staff level. CLASS integrates Marine Corps training requirements with the Advanced Field Artillery Tactical Data System (AFATDS). Systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations and define operational requirements.									
B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		1.114	0.000	0.000	0.000				
RDT&E Articles Qty									
JSIMS: Provided technical expertise to the US Army, US Navy and US Air Force in the development of USMC specific requirements. Participated in Federate Integration Event 4 and 5 and Functional Assessment 2. Completed Version Release Milestone (VRM) 1.0 in FY03. THIS PROGRAM HAS BEEN TERMINATED BEYOND FY04.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		2.338	0.000	0.000	0.000				
RDT&E Articles Qty									
CLASS: Mapped system design functions to requirements. Evaluated system design and software for CLASS subsystems. Developed Instructor Management System and software support system. Developed highest priority database; developed Master Control Station (MCS) subsystem and Forward Observer stand alone sub-system. Completed garrison version and completed prototype. THIS PROGRAM HAS BEEN TERMINATED BEYOND FY04.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		3.874	3.087	5.735	3.029				
RDT&E Articles Qty									
CACCTUS: Initial Proto-type installed at 29 Palms, CA for verification and validation testing by Tactical Training Exercise Control Group (TTECG). Transitioning continues from test bed to target simulation engine. Integration of operation C4I systems with sim. Development and integration of sim interfaces and visualization tools.									

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EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems	C2315 Training Devices/Simulators		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.691	0.984	1.615	1.712
RDT&E Articles Qty					
MILES: Continuing to Develop and integrate ground position location into fielded MILES 2000 equipment. Integrate MK19 40 mm machine gun and other new ground weapons systems into existing MILES 2000 inventory.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.591	2.592
RDT&E Articles Qty					
MTWS Enhancements: The MTWS support initiative includes software and system developement support, training network infrastructure support, and hardware support to include: Develop an HLA interface between MTWS and other simulation models, such as Joint Conflict and Tactical Simulation (JCATS) and other selected models. Develop MTWS-C4I interoperability with Command and Control PC (C2PC), Army Field Artillery Tactical Data System (AFATDS), Theater Battle Management Corps System (TBMCS), and Common Aviation Command and control System (CAC2S). Enhanced man machine interface for efficient exercise generation and execution processes, and reduce the number of exercise operators and controllers. Refresh computer hardware training suites, and supporting training communiation network infrastructure. Develop Course of Actions and Analyses (COAA) capability. Rules of Engagement for multi-sided warfare and organizations. Airborne Electronic Warfare and Advanced synthetic natural environment upgrade.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.078	0.000	0.000	0.000
RDT&E Articles Qty					
Combat Team Decision: Contracted tasks for the development of a decision making tool to prepare Marines for Iraqi Stability and Security Operations.					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost		0.345	0.733	0.000	0.000
RDT&E Articles Qty					
SESAMS: Continued Development and integration of SESAMS capability into MILES 2000 to create compatibility between two systems.					
(U) Total \$		8.440	4.804	8.941	7.333

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EXHIBIT R-2a, RDT&E Project Justification				DATE: Feburary 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems		C2315 Training Devices/Simulators	
(U) PROJECT CHANGE SUMMARY:					
		<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>
(U) FY 2005 President's Budget:		12.278	4.863	8.267	5.634
(U) Adjustments from the President's Budget:					
(U) Congressional/OSD Program Reductions					
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings		-3.542		0.921	1.920
(U) SBIR/STTR Transfer		-0.296			
(U) Minor Affordability Adjustment			-0.059	-0.247	-0.221
(U) FY 2006 President's Budget:		8.440	4.804	8.941	7.333
(U) Funding: See above.					
(U) Schedule: Not Applicable.					
(U) Technical: Not Applicable.					

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N /BA-7 Operational Sys Development

PROGRAM ELEMENT NUMBER AND NAME

0206313M Marine Corps Communication Systems

PROJECT NUMBER AND NAME

C2315 Training Devices/Simulators

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC, BLI# 653200 Trng Dev/Sims	55.663	56.744	17.722	13.753	30.553	55.756	17.832	18.531	Cont	Cont

(U) Related RDT&E: Not Applicable

(U) D. ACQUISITION STRATEGY:

(U) JSIMS - Development efforts terminated on 30 Sep 03. FY04 close out.

(U) CLASS - Awarded R & D to Aegis Technology, July 02 (CPFF). Program Cancelled in FY04 and out.

(U) CACCTUS - Competitive Cost plus Fixed Fee contract (CPFF).

(U) MILES - Competitively award Cost Plus Incentive Fee (CPIF) development contract.

(U) Combat Team Decision - Firm Fixed Price (FFP) development contract.

(U) MTWS Enhancements - Competitively award Cost Plus Incentive Fee (CPIF) development contract.

(U) SESAMS - Competitively award Cost Plus Incentive Fee (CPIF) development contract.

(U) E. MAJOR PERFORMERS:

Not Applicable for any programs with Training Devices/Simulators, C2315.

Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Development			0206313M Marine Corps Communication System				C2315 Training Devices/Simulators							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Dev - JSIMS	RCP	SPAWAR, San Diego, CA	15.325									0.000	15.325	15.325
Product Dev - JSIMS	MIPR	CECOM, FT Monmouth, NJ	0.111									0.000	0.111	0.111
Product Dev - JSIMS	RCP	PM TRASYS, Orlando, FL	3.612	0.764	04/04							0.000	4.376	4.376
Product Dev - MILES	RCP	Cubic, San Diego, CA	0.000			0.340	02/05	0.735	11/05	0.707	12/06	Cont	Cont	
System Eng - MILES	MIPR	PEO STRI, Orlando, FL	0.000	0.500	03/04							0.000	0.500	0.500
System Eng - SESAMS	MIPR	PEO STRI, Orlando, FL	0.000	0.245	03/04	0.733	03/05					0.000	0.978	0.978
Product Dev - CLASS	MIPR	PEO STRI, Orlando FL	0.327	2.010	10/03							0.000	2.337	2.337
Product Dev- CACCTUS	MIPR	PEO STRI, Orlando FL	3.916	2.296	02/04							0.000	6.212	6.212
Subtotal Product Dev			23.291	5.815		1.073		0.735		0.707		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software Dev - JSIMS	RCP	PM TRASYS, Orlando, FL	0.614									0.000	0.614	0.614
Software Dev - JSIMS	MIPR	US Dept of Energy	0.000	0.350	03/04							0.000	0.350	0.350
SW Dev - Miles	RCP	Cubic, San Diego, CA	0.000			0.339	02/05	0.500	11/05	0.600	12/06	Cont	Cont	
Software Dev-CACCTUS	RCP	PM TRASYS, Orlando, FL	0.000			1.700	10/04	2.000	10/05	1.640	10/06	Cont	Cont	
Software Dev-CACCTUS	RCP	MTS, Orlando, FL	8.853	0.799	06/04							0.000	9.652	9.652
SW Dev, CACCTUS	RCP	NAWC, Orlando, FL	1.400	0.000		0.300	10/04	1.753	10/05	1.000	10/06	0.000	4.453	4.453
SW Dev, CACCTUS	MIPR	PEO STRI, Orlando FL	1.379	0.575	04/04	1.087	10/04	1.982	10/05	0.389	10/06	0.000	5.412	5.412
SW Dev, DVTE	RCP	PM TRASYS, Orlando, FL	0.280									0.000	0.280	0.280
Dev Support - MTWS	RCP	PM TRASYS, Orlando, FL	0.000					1.341	10/05	2.342	10/06	Cont	Cont	
CD Video Dev - CDT	RCP	PM TRASYS, Orlando, FL	0.000	0.078	01/04								0.078	0.078
Subtotal SW Dev Support			12.526	1.802		3.426		7.576		5.971		Cont	Cont	0.000
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T & E - MILES	RCP	MCSC, Quantico, VA	0.000			0.145	01/05	0.180	11/05	0.205	12/06	Cont	Cont	
Dev Test & Eval -CACCTUS	MIPR	CECOM, FT Monmouth, NJ	3.294									0.000	3.294	3.294
Subtotal Dev T&E			3.294	0.000		0.145		0.180		0.205		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Development			0206313M Marine Corps Communication System				C2315 Training Devices/Simulators							
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Govt Engineering Spt-JSIMS	WR	NAWC, Orlando, FL	0.104									0.000	0.104	0.104
Program Support - MTWS	RCP	MCSC, Quantico, VA	0.000					0.250	10/05	0.250	10/06	Cont	Cont	
Program Spt - MILES	WR	NAWC, Orlando, FL	0.000	0.191	12/03	0.160	01/05	0.200	11/05	0.200	12/06	Cont	Cont	
Program Spt - SESAMS	WR	NSWC, Crane, Ind	0.000	0.100	12/03							0.000	0.100	0.100
Govt Engineering Spt -CLASS	WR	NAWC, Orlando, FL	0.500	0.328	10/03							0.000	0.828	0.828
Contractor SW Spt-CLASS	RCP	MCSC, Quantico, VA	2.132									0.000	2.132	2.132
Contractor Engineering Suppt	WR	NAWC, Orlando, FL	0.450	0.000		0.000						0.000	0.450	0.450
Govt Engineering Suppt	WR	NAWC, Orlando, FL	1.159	0.000		0.000						0.000	1.159	1.159
Army PM Spt, CACCTUS	MIPR	PEO STRI, Orlando, FL	0.456	0.082	12/04	0.000						0.000	0.538	0.538
PM Spt, CACCTUS	WR	NAWC, Orlando, FL	0.484	0.122	12/04							0.000	0.606	0.606
PM Spt, DVTE	WR	NAWC, Orlando, FL	0.070									0.000	0.070	0.070
Subtotal Management Spt			5.355	0.823		0.160		0.450		0.450		Cont	Cont	
Remarks:														
Total Cost			44.466	8.440		4.804		8.941		7.333		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N /BA 7 Operational Sys Development		0206313M Marine Corps Communication Systems				C2315 Training Devices/Simulators			

CACCTUS SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Software Development	1Q/3Q							
Proto-type Functionality Evaluation User Input	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q	1Q/2Q/ 3Q/4Q
Hardware Integration/Installation/Test								
TTECG 29 Palms	1Q							
Hardware Integration/Installation/Test								
Camp Lejeune		4Q						
Hardware Integration/Installation/Test								
Camp Pendleton			1Q					
Camp Hansen			3Q					
MCAS Kaneohe Bay				1Q				
Proto-type Hardware Installation/Test all Site			3Q	3Q	3Q	3Q	3Q	3Q
P3I 29 Palms			4Q					
P3I Camp Lejeune/Camp Pendleton				4Q				
P31 MCAS Kaneohe Bay/Camp Butler					4Q			
P3I 29 Palms						4Q	4Q	4Q
IOC				4Q				
CACCTUS FOC						4Q		
CACCTUS/JNTC FOC								4Q

Exhibit R-4/4a Schedule Profile/Detail							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Development		PROGRAM ELEMENT 0206313M Marine Corps Communication Systems				PROJECT NUMBER AND NAME C2315 Training Devices/Simulators		
MILES SCHEDULE DETAIL		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award			2Q	2Q	1Q	1Q		
Development/Demonstration/Prototype			2Q	2Q	2Q	2Q		
Test & Evaluation			1Q	1Q	1Q	1Q		
Program Support			2-4Q	1-4Q	1-4Q	1-4Q		

Exhibit R-4/4a Schedule Profile/Detail								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME	
RDT&E, N /BA 7 Operational Sys Development			0206313M Marine Corps Communication Systems					C2315 Training Devices/Simulators	
MTWS PROGRAM SCHEDULE									
	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Contract Awards				◆	◆	◆	◆		
MTWS IPT/CCB				—	—				
Build 1 SW Releases				■	■				
Build 2 SW Release						■	■		
Build 3 SW Release								■	■
HW Refresh				—		—	—		

Exhibit R-4/4a Schedule Profile/Detail							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Development		0206313M Marine Corps Communication Systems				C2315 Training Devices/Simulators				
	MTWS CHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	Contract Award				1Q	1Q	1Q	1Q		
	MTWS IPT/CCB				2-4Q	2-4Q				
	Build 1 SW Release				3Q	3Q				
	Build 2 SW Release						3Q	3Q		
	Build 3 SW Release								3Q	3Q
	HW Refresh				1-4Q		4Q	1-3Q		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems				PROJECT NUMBER AND NAME C2510 MAGTF CSSE & SE			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Project Cost		13.682	17.829	17.724	21.273	26.212	27.788	23.633	16.343
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>(U) The MAGTF Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contribute to the Combatant Commander's Common Operating Picture (COP) to support rapid accurate decision making.</p> <p>1. Automated Information Technology (AIT) is the proper mix of a suite of technologies that enables the user to efficiently and effectively capture, aggregate, transfer data and, integrate with Logistics Automated Information Systems (LOG AIS) using the optimum technology. Individual user's data and information will be integrated with DoD-wide systems technologies, software, and encoding formats as well as international commercial applications. AIT will facilitate data collection and flow to other AISs to better achieve Total Asset Visibility (TAV), enhancing and streamlining business processes and warfighting capability. AIT will remain interoperable with current DoD applications and capable of assimilating process and technological advancements.</p> <p>2. Transportation Systems Portfolio (formerly know as TC-AIMS II) funding supports the fielding, maintenance and sustainment of two Joint deployment programs—Integrated Computerized Deployment System (ICODES) and Aircraft Air Load Planning System (AALPS)—as well as the software maintenance and sustainment of our existing legacy systems—MAGTF LOGAIS (MDSS II/TC AIMS), Cargo Movement Operations System (CMOS), and Automated Manifest System – Tactical (AMS-TAC).</p> <p>- MDSS II (MAGTF Deployment Support System II) allows planners at the unit level to rapidly create lists of deploying equipment and personnel in response to tasking received from higher headquarters. Unit planners can compare on hand assets to requirements and assign equipment and personnel to specific carriers for both sea deployments and air embarkations. It also provides the MAGTF Commander with the automated ability to plan, coordinate, manage and execute the MAGTF operations relevant to various phases of transportation.</p> <p>- Automated Air Load Planning System (AALPS). Allows military air load planners to quickly and efficiently estimate airlift requirements, plan force packages, and modify aircraft loads.</p> <p>- Integrated Computerized Deployment System (ICODES). Ship load planning software application</p> <p>- Cargo Movement Operations System (CMOS). CMOS is a combat support system that automates and streamlines installation level cargo movement processes for both peacetime and deployment/contingency cargo. Workstations in ITO/TMO functional areas support one-time data capture for the preparation of documentation for all modes of shipment.</p> <p>- Automated Manifest System – Tactical (AMS-TAC). AMS is a transportation tool that utilizes AIT technologies to facilitate In-transit Visibility / Total Asset Visibility (ITV/TAV) for DLA, the US Army, USN and USMC.</p> <p>- Automated Manifest System – Tactical (AMS-TAC). AMS is a transportation tool that utilizes AIT technologies to facilitate In-transit Visibility / Total Asset Visibility (ITV/TAV) for DLA, the US Army, USN and USMC.</p> <p>- TCAIMS II provides the hub for the OSD mandated Joint transportation suite of systems that will provide mobility and sustainment capability to all services and bring the Marine Corps into compliance with Department of Defense Reform Initiative 54. TC-AIMS II is a Joint transportation and deployment Automated Information System (AIS) supporting the DOD mission areas of mobility and sustainment.</p> <p>3. Common Computer Resources (CCR) Marine Common Hardware Suite (MCHS) - Centralizes and standardizes management and acquisition of all Tactical common computer hardware and infrastructure by adopting the Joint Defense Information Infrastructure (DII) Common Operating Environment (COE) with consolidated Integrated Logistics Support. Ensures the environment remains in synchronization with computer hardware technology hardware improvements. The mission supports the Commandant's Planning Guidance and the Marine Corps Master Plan.</p> <p>4. Global Combat Support System (GCSS)MC is the physical implementation of the enterprise information technology architecture designed to support both improved and enhanced MAGTF Combat Service Support functions and MAGTF Commander and Combatant Commander/Joint Task Force (JTF) combat support information requirements. As such, GCSS-MC is not a single system but a portfolio of information technology capabilities tied to discrete performance measures that support required combat service support mission objectives.</p>									

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EXHIBIT R-2a, RDT&E Project Justification		DATE:		
		February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communications Systems	C2510 MAGTF CSSE & SE		
<p>The ILC Analysis provided the foundation for logistics transformation within the Marine Corps and established a compliance response to Defense Reform Initiative Directive (DRID) 54, directing that logistics transformation be accomplished throughout the service components. Immediately following the guidance of DRID 54, the GCSS-Capstone Requirements Document (CRD) was approved by the JROC. The GCSS CRD requires an IOC in FY04 and FOC in FY06. Specific ILC objectives are desired by 2004. GCSS-MC is the IT solution to accomplish the transformation and GCSS objectives. GCSS-MC is an integrated set of capabilities. The capabilities will be implemented within a bottoms-up (programs of record) approach within a portfolio of systems. The portfolio of systems contributes to the primary capabilities of GCSS-MC. External portfolios will also contribute secondary to GCSS-MC capabilities through integration strategies. Primary capabilities are supply chain and combat service support oriented.</p> <p>Secondary capabilities and aspects of some of the above are achieved through integration with the Manpower, Acquisition and other portfolios as well as integration with Joint and other Service systems. This integration will migrate the current Shared Data Environment (SDE), Total Force Structure Management System (TFSMS), and Automated Information Technology (AIT) to an integrated Detailed Planning and Current Operations System over the long-term. The capabilities are to be matched against systems remaining after the system realignment and categorization process and then assessed for compliance, alignment and cost effectiveness versus readily available COTS and GOTS products. The GCSS-MC portfolio seeks to most effectively achieve the mandated requirements through provisioning of the capabilities not extending specific systems.</p> <p>GCSS-MC is the IT solution for logistics transformation being developed by the ILC. The ILC Analysis was completed during an 18-week engagement beginning in late October 1998 to early February 1999. This analysis concluded with a high-level Business Case Analysis (BCA). The BCA concluded conservatively that accomplishing the ILC actions (including re-engineered IT among others) would reduce Marine Corps inventories and reduce support requirements allowing the shifting of (2000) Marines from logistics to the battlefield by 2004 (given the current timelines). ILC action will also result in: lighter, more flexible and easier to move MAGTF; Higher CSS responsiveness: reduced stocks and CSS footprint inside the MAGTF; Less equipment for Warfighter to manage; Rapidly scaleable and deployable CSS units that have worldwide inventory visibility. Access to more reliable, accurate and actionable information that clarifies the logistics situational awareness; near real time visibility of requests for products and services allowing higher confidence and trust in logistics; and the ability to operate with greater certainty. The resulting capability is referred to as a shared data environment.</p>				
<p>5. MAGTF CSSE&SE: The CSSE Shared Data Environment is a cornerstone concept of the Integrated Logistics Capability. It will incorporate data warehousing technologies and products to provide one stop shopping for data supporting CSSE/SE decision-making processes. It will stage CSSE/SE data and integrate decision support tools (DST) to enable command and control (C2), situational awareness, and total asset visibility at all levels of command, from the Combatant Commander to the Company Commander. The establishment of the CSSE SDE will eliminate the need for individual applications to perform these tasks for themselves and will contribute to a more cost-effective, efficient application development environment.</p>				
<p>6. Joint Forces Requirement Generation II (JFRG II) : The mission of JFRG II is to enhance and increase the ability of Joint Force planners and operators to efficiently task, organize, deploy, and sustain forces during combat operations or operations other than war. The system will decrease the planning and mobilization time and effort necessary to support a Combatant Commander's mission priorities and objectives. JFRG II is a force multiplier, improving service responsiveness for unit assignment to notional operational plans.</p>				
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.058	0.990	0.970	0.950
RDT&E Articles Qty				
CCR/MCHS: Environmental testing of CISC/RISC workstations.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.528	0.509	0.463	0.502
RDT&E Articles Qty				
CCR/MCHS: Environmental testing of CISC/RISC servers.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA-7 Operational Systems Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems		PROJECT NUMBER AND NAME C2510 MAGTF CSSE & SE	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.100	0.250
RDT&E Articles Qty				
GCSS/AIT: Development of software with AIT capabilities in conjunction with the DOD AIT implementation plan.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	10.465	13.824	10.502	13.343
RDT&E Articles Qty				
GCSS-MC Logistics Chain Management: Program/Engineering support, analysis, integration, development, testing, and enhancements for blocks one (1) through three (3).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.200	1.436	3.341	4.095
RDT&E Articles Qty				
GCSS-MC Logistics Command and Control: Program/Engineering support, analysis, integration, development, testing, and enhancements for blocks one (1) through three (3).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.431	1.070	0.680	0.488
RDT&E Articles Qty				
Transportation Portfolio System: Conduct operational test and evaluation of TC-AIMS II per JPMO schedule. Supports the development and sustainment of Joint/Multi-Service transportation and distribution systems.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.668	1.645
RDT&E Articles Qty				
Joint Forces Requirement Generation II (JFRG II) : Funds are for software development and integration into GCCS 4.X and legacy systems from all services to pass deployment data to GCCS.				
(U) Total \$	13.682	17.829	17.724	21.273

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Systems Dev		0206313M Marine Corps Communications Systems				C2510 MAGTF CSSE & SE				
(U) PROJECT CHANGE SUMMARY:		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>					
(U) FY 2005 President's Budget:		22.238	18.034	10.611	8.123					
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings		-7.937		7.611	13.807					
(U) SBIR/STTR Transfer		-0.619								
(U) Minor Affordability Adjustments			-0.205	-0.498	-0.657					
(U) FY 2006 President's Budget		13.682	17.829	17.724	21.273					
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule: GCSS-MC Schedule Slip.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI 464100 MAGTF CSSE & SE: TSP	0.000	0.679	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.679
PMC BLI 463000 CCR: MCHS Svrs/Wkstns	45.550	58.520	41.760	57.152	88.757	86.809	72.814	64.721	Cont	Cont
PMC BLI 461400 GCSS	5.230	12.409	0.000	0.000	0.000	0.000	0	0	0.000	17.639
PMC BLI 461700 COMBAT SPT SYS: GCSS	0.000	0.000	12.843	11.708	8.581	11.348	10.604	14.434	Cont	Cont
PMC BLI 461400 GCSS: AIT	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.104
PMC BLI 461400 GCSS: AIT	4.800	2.852	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.652
PMC BLI 461700 COMBAT SPT SYS: AIT	0.000	0.000	7.962	9.731	12.824	13.237	9.142	10.179	Cont	Cont
(U) Related RDT&E: Not Applicable.										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA-7 Operational Systems Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2510 MAGTF CSSE & SE
<p>(U) D. ACQUISITION STRATEGY:</p> <p>Transportation Systems Portfolio: Support the development and sustainment of Joint/Multi-Service transportation and distribution systems.</p> <p>Common Computer Resources (CCR): To insure computer hardware in the operating forces keeps pace with industry computer hardware technical improvements.</p> <p>GCSS-MC is a portfolio of systems. The approach is to enable Marine Corps Logistics Modernization through two main programs, Logistics Chain Management (LCM) and Logistics Command and Control (Log C2). Each program will pursue an evolutionary acquisition (EA) strategy in order to field operationally suitable and supportable capabilities in the shortest time possible. EA offers the fastest method to field this highest of Advocate priorities and allows for requirements to be time-phased as the users become more familiar with the fielded systems' strengths and weaknesses. In addition to quicker fielding, an EA approach is particularly well suited to software intensive programs and offers these benefits: rapidly delivers an initial capability with the explicit intent of delivering continuously improved capability in the future and reduces "cycle time" from identification of emergent user requirements, priorities and fielding. The GCSS-MC acquisition strategy for each program will be to deliver capabilities in Blocks. Each Block is divided into two main phases: Planning/Blueprinting and Realization/Transition. More substantial software improvement/system upgrades will be fielded with each Block, as required and prioritized by the user community. Blocks will include eme Each Block will repeat the complete acquisition program cycle starting with MS A for the first Block for LCM and Milestone B thereafter going through a Milestone C/FRPDR for each Block. LCM is an ACAT 1AM program and Log C2 is an ACAT III or IV. LCM has passed MS A. The tentative date are for LCM MS B is during the 3rd quarter FY05 and MS C during the 4th quarter FY06, with fielding to begin in the latter part of FY06 with continued block upgrades thereafter. FOC is validated when all Marine Corps ground components are using</p> <p>Joint Forces Requirement Generation II (JFRG II) : JFRG II develops to requirements provided by all services as it becomes necessary. Software is tested for functionality with service users then passed on to DISA for security & interoperability testing and release as a GCCS mission application. This is conducted based on a 6-month release schedule of GCCS, with a 6-month lead time for each JFRG II version release.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>Transportation Systems Portfolio</p> <p>FY06 - NWSC, Crane, IN, Conduct IOT&E - supporting MCOTEA. Stanley Associates (MDSS II), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS) Dec 05</p> <p>FY07 - NWSC, Crane, IN, Conduct IOT&E - supporting MCOTEA. Stanley Associates (MDSS II), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS),Dec 06</p> <p>CCR/MCHS</p> <p>FY04 - NWSC, Crane, IN, Environment testing of servers and workstations, December 2003.</p> <p>FY05 - Spawar, Charleston, SC Environmental testing of servers and workstations Jan 2005.</p> <p>FY06 - SpaWar, Charleston, SC Environmental testing of servers and workstations Jan 2006</p> <p>MAGTF CSSE &SE</p> <p>FY04 - Stanley Associates, Provide technical and functional expertise to develop the functionality in the GCSS MC Expanded Validation Oracle 11i Environment</p> <p>FY06 - Contracting information will be determined at a later date.</p> <p>FY07 - Contracting information will be determined at a later date.</p> <p>Joint Forces Requirement Generation II (JFRG II) :</p> <p>FY06 CSC/BBN Tech (Software Developers). Oct 05</p> <p>FY07 CSC/BBN Tech (Software Developers). Oct 06</p> <p>Automated Information Technology (AIT)</p> <p>FY06 - Contracting information will be determined at a later date.</p> <p>FY07 - Contracting information will be determined at a later date.</p>		

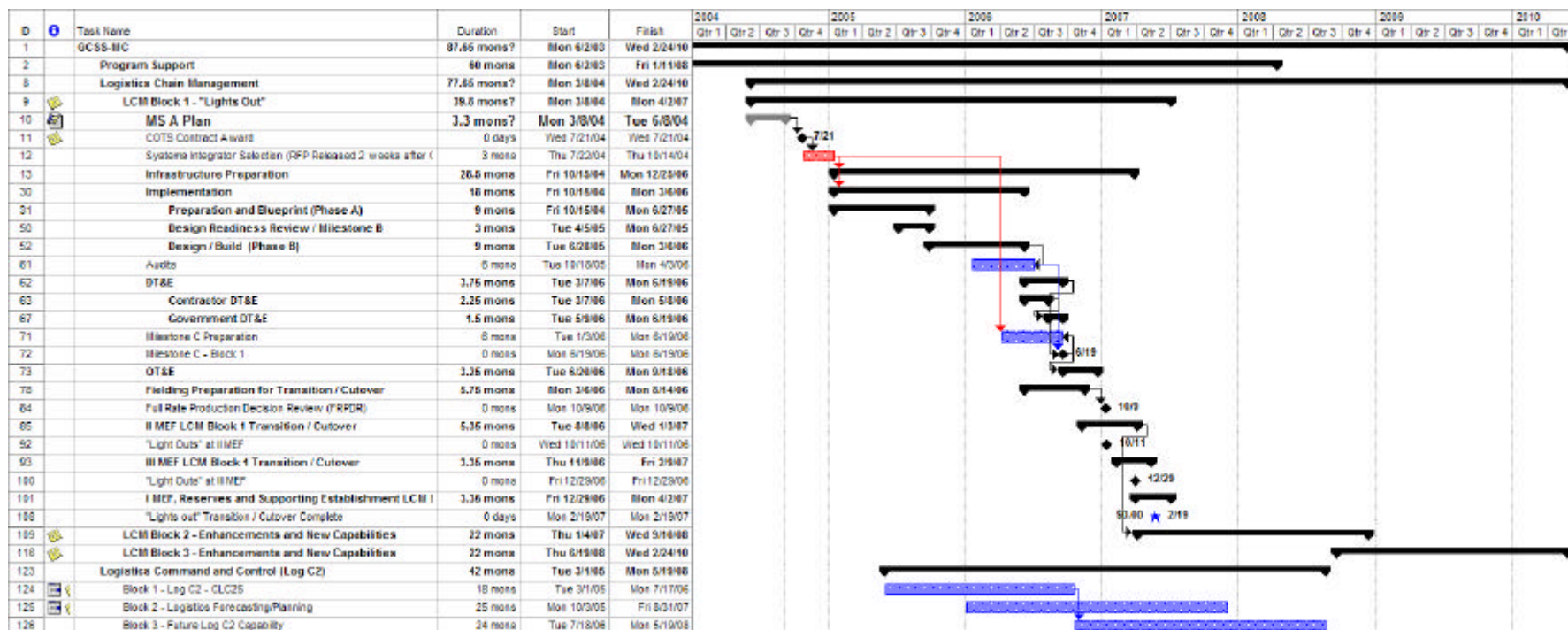
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Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev			0206313M Marine Corps Communications Systems				C2510 MAGTF CSSE S&E							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Transportation Portfolio Syster	C/FFP	MCSC, Quantico, VA	0.000			0.882	01/05	0.185	12/05	0.340	12/06	Cont	Cont	
CCR/MCHS	WR	NSWC, Crane, Indiana	0.000	1.058	12/03	0.928	01/05	0.772	01/06	0.826	01/07	Cont	Cont	
GCSS Logistics Chain Man	TBD	TBD	0.000	10.465	08/04	8.274	12/04	6.700	01/06	7.867	01/07	Cont	Cont	
GCSS Log C2 Systems	TBD	TBD	0.000	1.200	08/04	0.862	12/04	2.004	01/06	2.457	01/07	Cont	Cont	
JFRG II	RCP	MCSC, Quantico, VA						1.668	10/05	1.645	10/06	Cont	Cont	
MAGTF CSSE & SE	C/FFP	Various	0.726	0.000	04/03	0.008	01/04			Cont.	Cont.			
Subtotal Product Dev			0.000	12.723		10.946		11.329		13.135		Cont	Cont	
Remarks:			8.068											
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
GCSS Logistics Chain Man	TBD	Various	0.000		01/04	0.000	01/05					0.000	1.000	
GCSS Log C2 Systems	TBD	TBD				0.000						0.000	0.000	
GCSS/ AIT	TBD	TBD	0.046	0.000				0.100	01/06	0.250	01/07		0.645	
Subtotal Support			0.000	0.000		0.000		0.100		0.250		0.000	0.350	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
CCR/MCHS	WR	NSWC, Crane Indiana	0.000	0.528	12/03	0.509	01/05	0.463	01/06	0.502	01/07	Cont	Cont	
Transportation Portfolio System	WR	MCPD	0.423	0.431	06/04	0.100	01/05	0.205	12/05		01/07	0.000	1.159	
Transportation Portfolio System	WR	MCPD	0.133			0.100	01/05	0.150	12/05		01/07	0.000	0.383	
Transportation Portfolio System	RCP	ANTEON	0.584					0.140	12/05	0.148	12/06	0.000	0.872	
GCSS Logistics Chain Man						4.200	01/05	3.000	01/06	4.200	01/07		11.400	
GCSS Log C2 Systems						0.430	01/05	1.003	01/06	1.228	01/07		2.661	
Subtotal T&E			1.140	0.959		5.339		4.961		6.078		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
GCSS Logistics Chain Man			0.000			1.400	01/05	1.000	01/06	1.400	01/07		3.800	
GCSS Log C2 Systems			0.000			0.144	01/05	0.334	01/06	0.410	01/07		0.888	
Subtotal Management			0.000	0.000		1.544		1.334		1.810		Cont	Cont	
Remarks:														
Total Cost				13.682		17.829		17.724		21.273		Cont	Cont	

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Exhibit R-4-4a Project Schedule/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communications Systems	C2510 GCSS-MC Modernization

GCSS



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N	11.665	15.260	13.843	17.438	22.471	23.889	19.711	12.410	Cont	Cont
(U) PMC BLI 461400 GCSS	5.230	12.409	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.639
(U) PMC BLI 461700 GCSS	0.000	0.000	12.843	11.708	8.581	11.348	10.604	14.434	Cont	Cont

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Exhibit R-4-4a Project Schedule/Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDTE, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communications Systems				C2510 GCSS-MC Modernization			

GCSS-MC (Logistics Chain Mgmt, Log C2)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
LCM Block 1 - "Lights Out"				3rd Qtr				
MS A Plan	3rd Qtr							
Implementation	1st Qtr ++++++							
DT&E			3rd Qtr					
Milestone C - Block 1			3rd Qtr					
II MEF LCM Block 1 Transition/Cutover			4th Qtr ++++++					
II MEF "Lights Out"				1st Qtr				
III MEF "Lights Out"				1st Qtr				
LCM Block 1 - "Lights Out"/Transition Complete				2nd Qtr				
LCM Block 2 - Enhancements, New Capabilities					4th Qtr			
LCM Block 3					3rd Qtr ++++++			
Log C2		2nd Qtr ++++++						
Block 1 - Log C2 - CLC2S		2nd Qtr ++++++						
Block 2 - Logistics Forecasting/Planning		1st Qtr ++++++						
Block 3 - Future Log C2 Capability			4th Qtr ++++++					

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 OPERATIONAL SYS DEV			0206313M Marine Corps Communication Systems			C3099 RADAR SYSTEMS				
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost			19.393	51.055	23.741	42.380	103.321	117.917	66.526	63.975
RDT&E Articles Qty										
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:										
1. The Aviation Radar (AN/TPS-59(V)3) is a national asset. It is the only fielded ground-based sensor which can detect and track long range Air Breathing Targets (ABT) within 300 nautical miles, as well as Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles for 360 degrees and up to one million feet in elevation. Highly Expeditionary Long Range Air Surveillance Radar (HELRASR) is the modernization initiative to replace the AN-TPS 59 Radar.										
2. Ground Weapons Locating Radar (GWLR): The GWLR is an up-grade to the current AN/TPQ-46A radar. The system will acquire threat indirect fire weapons including mortars, artillery, rocket and missile systems at greater ranges than the current radar. The principle functions of the system will be to detect, track, classify and accurately determine the origin of enemy weapon platforms and forward the location data to the counterfire element. The upgrades will focus on achievement of greater detection ranges as well as increased communication, security, and system availability.										
3. The Multi-Role Radar System (MRRS) is also known programmatically as Ground/Air Task Oriented Radar (G/ATOR). G/ATOR is a single material solution to fill the MRRS's and Ground Weapon Locating Radar's (GWLR) (End State) requirements. It is an Evolutionary Acquisition/Incremental Development Program designed to reduce the Total Ownership Costs associated with the MRRS and GWLR systems. Increment I will fill the MRRS's Short Range Air Defense (SHORAD) mission and medium range Air Surveillance mission. Increment II will fill the GWLR's Counter Fire/Counter Battery missions. Increment III will develop tactical enhancements to Increment I's design. Lastly, Increment IV will fill the Air Traffic Control mission. Programmatically, MRRS and GWLR will merge into a single requirement (G/ATOR) as the requirement documents transition from the Op Requirement Document (ORD) format to the Capability Development Document (CDD) format.										
4. The Short/Medium Range Air Defense Radar AN/TPS-63B is a two-dimensional, medium-range, medium altitude, transportable radar system which is doctrinally employed as a tactical gap-filler or as an early warning system for early deployment into the operational area. It has a 360-degree air surveillance capability at a range of 160 miles and complements the co-employed AN/TPS-59(V)3 three-dimensional, long-range, air surveillance radar system. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system performance with the specific purpose of meeting increased fleet operational requirements. AN/TPS-63 modifications and system improvements will be researched and analyzed to determine which complement existing components to preclude an expensive USMC investment in solid-state radar technology.										
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost			4.666	4.303	1.751	7.808				
RDT&E Articles Qty										
AN/TPS-59 (Sustainment): Develop Engineering Change Proposals for software improvements and Diminishing Manufacturing Sources issues.										
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost			1.352	0.850	0.750	0.750				
RDT&E Articles Qty										
AN/TPS-59 (Sustainment): Contractor service support.										
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost			1.323	0.000	0.000	0.000				
RDT&E Articles Qty										
HELRASR (Modernization): Developmental test and evaluation/risk reduction.										

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
APPROPRIATION/BUDGET ACTIVITY			February 2005	
RDT&E, N /BA-7 OPERATIONAL SYS DEV			PROJECT NUMBER AND NAME	
COST (\$ in Millions)			C3099 RADAR SYSTEMS	
Accomplishment/Effort Subtotal Cost			FY 2004	FY 2005
RDT&E Articles Qty			FY 2006	FY 2007
HELRASR (Modernization): Perform Risk Mitigation analysis.			0.217	0.000
COST (\$ in Millions)			0.000	0.000
Accomplishment/Effort Subtotal Cost			0.000	0.000
RDT&E Articles Qty				
HELRASR (Modernization): Develop a Manpower Training Plan (MTP).				
COST (\$ in Millions)			FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost			FY 2006	FY 2007
RDT&E Articles Qty			0.028	0.000
HELRASR (Modernization): Develop Operational Requirement Document analysis and Technical System Requirements Document (TSRD).			0.000	0.000
COST (\$ in Millions)				
Accomplishment/Effort Subtotal Cost			FY 2004	FY 2005
RDT&E Articles Qty			FY 2006	FY 2007
HELRASR (Modernization): Perform risk assessment analysis.			1.004	0.982
COST (\$ in Millions)			0.000	0.000
Accomplishment/Effort Subtotal Cost			0.000	9.800
RDT&E Articles Qty			0.000	0.000
HELRASR (Modernization): Source Selection & Contractor System Development.				
COST (\$ in Millions)			FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost			FY 2006	FY 2007
RDT&E Articles Qty			0.200	0.000
HELRASR (Modernization): Develop Business Case Analysis (BCA) for Performance Based Logistics (PBL).			0.000	0.000
COST (\$ in Millions)				
Accomplishment/Effort Subtotal Cost			FY 2004	FY 2005
RDT&E Articles Qty			FY 2006	FY 2007
HELRASR (Modernization): Contractor service support.			0.520	0.583
COST (\$ in Millions)			0.000	0.000
Accomplishment/Effort Subtotal Cost			0.000	0.000
RDT&E Articles Qty				
HELRASR (Modernization): System development and demonstration for modernization initiative.				
COST (\$ in Millions)			FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost			FY 2006	FY 2007
RDT&E Articles Qty			0.816	0.000
			0.000	0.000

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems		C3099 RADAR SYSTEMS	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.267	1.328	2.199	0.750
RDT&E Articles Qty				
GWLR: Radar Processor Redesign.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.160	0.665	0.389	1.207
RDT&E Articles Qty				
GWLR: AN/TPQ-46A Re-cap/Up-grade.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.126	0.060	0.050	0.050
RDT&E Articles Qty				
GWLR: Program office management/travel.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.075	0.000	0.000	0.000
RDT&E Articles Qty				
GWLR: Life Cycle Cost Estimate.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.100	0.000	0.900
RDT&E Articles Qty				
G/ATOR: Test and Evaluation				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.200	0.000	0.200	0.000
RDT&E Articles Qty				
G/ATOR: Performance Based Logistics Studies				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.255	0.350	0.000	0.900
RDT&E Articles Qty				
G/ATOR: Modeling and Simulation				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.407	0.000	0.000	0.000
RDT&E Articles Qty				
G/ATOR: Operational Mode Summary				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.076	0.050	0.050	0.050
RDT&E Articles Qty				
G/ATOR: Life Cycle Cost Estimate				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N/BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems		C3099 RADAR SYSTEMS	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.199	0.200	0.000	0.000
RDT&E Articles Qty				
G/ATOR: Risk Management/Technology Readiness				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	2.802	0.000	0.000	0.000
RDT&E Articles Qty				
G/ATOR: Operational Employment Risk Mitigation				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	2.040	3.794	2.823	2.605
RDT&E Articles Qty				
G/ATOR: Contractor Technical and Programmatic Support				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.810	1.527	2.574	2.951
RDT&E Articles Qty				
G/ATOR: In-house program management				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	1.366	0.000	0.000
RDT&E Articles Qty				
G/ATOR: Government Furnished Equipment (GFE)				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	15.240	6.925	11.295
RDT&E Articles Qty				
G/ATOR: Development Engineering/EDM Hardware Production				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	9.100	4.150	9.660
RDT&E Articles Qty				
G/ATOR: Software Requirement Engineering and Development				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.527	3.200
RDT&E Articles Qty				
G/ATOR: Manufacturing (tooling, facilities, data)				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.093	0.000	0.000	0.000
RDT&E Articles Qty				
MRRS OT Testing: Continue work towards the Multiple Role Radar System TEMP Test Integrated Working Group (TIWG).				

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N/BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems		C3099 RADAR SYSTEMS	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.112	0.120	0.125	0.134
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Program mgmt support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.206	0.137	0.028	0.120
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Engineering and technical support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.165	0.000	0.000	0.000
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Studies conducted on the Grid Pulse/Filament Supply Assy, Turn-off Pulser, and Auto Sequence Circuit Card Assembly.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.145	0.000	0.000	0.000
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Engineering Change Proposal development and engineering trade study on the Multi-Level Power Supply.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.250	0.000	0.000
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Feasibility study for the Multi-Level Power Supply.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.250	0.000	0.000
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Feasibility study for the Frequency Generator.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.200	0.000
RDT&E Articles Qty				
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Feasibility study for the Compressor/Dehydrator.				
(U) Total \$ (C3099 Radar Systems)	19.393	51.055	23.741	42.380

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 OPERATIONAL SYS DEV		0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS				
(U) PROJECT CHANGE SUMMARY:										
		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>					
(U) FY 2005 President's Budget:										
(U) Adjustments from the President's Budget:		20.141	51.552	48.008	38.842					
(U) Congressional/OSD Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings		-0.375		-23.615	4.874					
(U) SBIR/STTR Transfer		-0.354								
(U) Minor Affordability Adjustment		-0.019	-0.497	-0.652	-1.336					
(U) FY 2006 President's Budget:		19.393	51.055	23.741	42.380					
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC, BLI#465100, AN/TPS-59 Sustainment	13.160	24.371	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.531
(U) PMC, BLI#465000, AN/TPS-59 Sustainment	0.000	0.000	5.626	6.882	6.239	6.435	4.873	2.815	Cont	Cont
(U) PMC, BLI#465100, Combat ID (OIF II)	1.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.312
(U) PMC, BLI#464200, Grnd Weapon Locator Radar	2.888	0.859	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.747
(U) PMC, BLI#465000, Grnd Weapons Locating Radar	0.000	0.000	6.015	9.746	9.218	2.128	2.541	2.845	Cont	Cont
(U) PMC, BLI#464200, Short/Med Range Radar	1.950	1.415	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.365
(U) PMC, BLI#465000, Short/Medium Range Radar	0.000	0.000	0.526	0.436	0.448	0.453	0.407	0.340	Cont	Cont
(U) PMC, BLI#465000, Grnd/Air Task Oriented Radar	0.000	0.000	0.000	0.000	0.000	44.564	104.123	113.349	Cont	Cont
(U) Related RDT&E:										
(U) PE 0206313M (Marine Corps Communication Systems), Project C2278, Project C2273, and Project C9276.										

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS
<p>(U) D. ACQUISITION STRATEGY:</p> <p>(U) Highly Expeditionary Long Range Air Surveillance Radar (HELRASR): The modernization initiative will encompass all 11 AN/TPS-59 radar systems within the Marine Corps inventory. Due to technological advances, evolving threats, mobility issues, changes in employment concepts (Operational Maneuver from the Sea (OMFTS) and Expeditionary Maneuver Warfare (EMW)), interface requirements imposed by developing systems (CAC2S, CEC/CTN and CLAWS) and requirements outlined in the Capstone Requirements Documents (CID, TAMD, GIG, and IDM), the AN/TPS-59(V)3 must undergo modernization. The Acquisition Strategy is based on the recommendations from the Business Case Analysis and two independent modernization studies. Beginning in FY04, the program office will start R&D efforts that will incorporate the 3-D Expeditionary Long Range Radar ORD requirements into the current 11 fielded AN/TPS-59(V)3 radars. It is anticipated that this effort will require 9 years of R&D with a separate Development Test (DT)/Operational Test (OT). Forecasted IOC is FY13 with FOC for 11 systems occurring in FY18.</p> <p>(U) AN/TPS-59 Radar Sustainment: The Program Office intends to address Diminishing Manufacturing Sources (DMS) issues by continuing with the Post Production Support Program (PPSP) started in POM 02 initiative, and they will also begin R&D efforts that will modernize the radar with advanced technology and performance capabilities. A Business Case Analysis (BCA) was completed which incorporated two independent obsolescence/DMS studies that identified critical components which will severely impact the system performance and readiness by FY07. Based upon the BCA, the program office intends to sustain 8 of the 11 systems. The refurbishing and sustaining of 8 systems will enable 3 active units (2 per MEF), and 2 reserve units to have a system with current technology, extend system life cycle and lower the radars' overall operating cost. The remaining 4 systems will transition during the modernization effort.</p> <p>(U) Ground Weapons Locating Radar (GWLR): The GWLR is an upgrade to the current AN/TPQ-46A radar. The upgrade will be accomplished through a series of engineering change proposals (antenna transceiver group re-cap, Radar Processor re-host, and the lightweight computer unit replacement). ECPs will be conducted by the equipment PICA (Army PM Firefinder) with USMC participation. Joint procurement of hardware will realize economy of scale savings and insure common configuration. Army and Marine Corps Depot facilities will be utilized to perform hardware installation. Purpose of the upgrade is to enhance performance and availability.</p> <p>(U) G/ATOR: The Ground/Air Task Oriented Radar, formerly known as MRRS, is an Evolutionary Acquisition / Incremental Development Program. G/ATOR is comprised of four Increments which will fill the MRRS's and GWLR's requirements. Four legacy systems (TPS-63, MPQ-62, TPS-73/79 & TPQ-46A) will be replaced by a single material design that offers an opportunity to reduce development cost and combine training and logistics assets. MRRS's Authorized Acquisition Objective (AAO) is 41 systems which replaces the TPS-63, MPQ-62 and TPS-73/79 systems as well as additional systems in support of the SHORAD mission (CLAWS weapon cue); GWLR's AAO is 22 systems, a one for one replacement of the TPQ-46A. The Increments' System Development & Demonstration (SDD) phases are staggered to allow for technology insertion due to obsolescence and technology growth issues. Early Increment I builds will be back fitted to current then year technology as required. As they become available, Increment III Tactical Enhancements will parallel field to then year Increment I builds and back fitted to earlier builds. A single Eng Development Model (EDM) will be developed during Increment I's SDD phase and flowed down to support later increments.</p> <p>(U) SHORT/MEDIUM RANGE AIR DEFENSE RADAR: This effort requires R&D funds to develop modifications to keep the Short/Medium Range Air Defense Radar System's electronics and hardware viable and safe, providing sustainment for the fielded system. Efforts are underway to award a sole source Engineering Services and procurement contract with the AN/TPS-63's Original Equipment Manufacturer, Northrop Grumman. The main focus of the contract will be the development and procurement of replacement sub-assemblies currently identified as containing obsolete components, as well as those assemblies experiencing reliability, maintainability and safety related issues.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>(U) Lockheed Martin Corp, Syracuse, NY. Contract awarded in April 04 for AN/TPS-59 to develop ECPs for software improvements and DMS issues. FY05, FY06, and FY07 project contract with LMC in Jan of each year to develop ECPs for software improvements an</p> <p>(U) Contractor TBD by competitive sourcing. Projected to be put on contract in Jan 05 to support the HELRASR (AN/TPS-59 modernization initiative) for source selection & contractor system development.</p> <p>(U) Contractor TBD by competitive sourcing, projected to be put on contract in Mar 05 for MRRS software design and development. FY 06 and FY 07 project contract with TBD contractor in Dec of each year for software design and development.</p>		

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Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 OPERATIONAL SYS DEV				0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comple	Total Cost	Target Value of Contract
AN/TPS-59 Sustainment	C/CPFF	Lockheed, Syracuse NY	0.000	4.666	01/04	4.303	01/05	1.751	01/06	7.808	01/07	Cont	Cont	
HELRASR (Modernization)	C/CPFF	Sensis, Dewitt, NY	0.000	1.234	12/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	1.234	
HELRASR (Modernization)	TBD	TBD	0.000	0.000	N/A	9.800	01/05	0.000	N/A	0.000	N/A	Cont	Cont	
HELRASR (Modernization)	WR	NSWC Crane	0.000	0.217	10/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.217	
HELRASR (Modernization)	WR	MCSC Orlando	0.000	0.028	10/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.028	
HELRASR (Modernization)	WR	NRL	0.000	0.660	11/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.660	
HELRASR (Modernization)	WR	Johns Hopkins Univ/APL	0.000	0.128	11/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.128	
HELRASR (Modernization)	MIPR	BMPCOE	0.000	0.129	03/04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.129	
HELRASR (Modernization)	RCP	MCCDC	0.000	0.140	11/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.140	
HELRASR (Modernization)	WR	MCOTEA	0.000	0.076	01/04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.076	
HELRASR (Modernization)	RCP	EG&G Tech Svc, Dumfries, V	0.000	0.200	09/04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.200	
G/ATOR	MIPR	Redstone Arsenal, AL	0.634	2.802	01/04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	3.436	
G/ATOR	MIPR	ONR, Arlington, VA	0.000	0.199	06/04	0.200	01/05	0.000	01/06	0.000	01/07	Cont	Cont	
G/ATOR	CPIF	Contractor TBD	0.000	0.000	N/A	24.340	01/05	12.602	10/05	24.155	10/06	Cont	Cont	
G/ATOR	RCP	MCSC, Quantico, VA	0.000	0.076	01/04	0.050	01/05	0.050	01/06	0.050	01/07	Cont	Cont	
G/ATOR	RCP	MCSC, Quantico, VA	0.000	0.000	N/A	1.366	10/04	0.000	N/A	0.000	N/A	Cont	Cont	
SHORT/MEDIUM RANGE	RCP	Northrop Grumman	0.274	0.310	03/04	0.500	01/05	0.200	01/06	0.000	N/A	Cont	Cont	
GWLR	RCP	MCSC Quantico, VA	0.000	0.075	04/04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.075	
Subtotal Product Dev			0.908	10.940		40.559		14.603		32.013		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comple	Total Cost	Target Value of Contract
GWLR	WR	NSWC, Dahlgren, VA	0.000	0.550	10/03	1.328	11/04	0.699	11/05	0.305	11/06	Cont	Cont	
GWLR	MIPR	US Army CECOM	0.000	0.717	02/04	0.312	11/04	1.500	11/05	0.750	11/06	Cont	Cont	
GWLR	WR	MCLB Barstow	0.000	0.160	07/04	0.138	02/05	0.389	11/05	0.902	11/06	Cont	Cont	
GWLR	WR	NSCW, Crane, IN	0.000	0.000	N/A	0.215	02/05	0.000	N/A	0.000	N/A	Cont	Cont	
G/ATOR	C/FFP	EG&G Tech Svc, Dumfries, V	0.000	0.200	03/04	0.000	N/A	0.200	N/A	0.000	N/A	0.000	0.400	
G/ATOR	MIPR	MITRE, Boston, MA	0.000	0.255	01/04	0.350	02/05	0.000	N/A	0.900	N/A	0.000	1.505	
G/ATOR	C/FFP	MTC Tech, Quantico, VA	0.000	0.407	03/04	0.000	N/A	0.000	N/A	0.000	01/07	Cont	Cont	
SHORT/MEDIUM RANGE	WR	NSWC, Crane, IN	0.000	0.206	01/04	0.137	01/05	0.028	01/06	0.120	01/07	Cont	Cont	
Subtotal Support			0.000	2.495		2.480		2.816		2.977		Cont	Cont	
Remarks:														

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Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 OPERATIONAL SYS DEV				0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comple	Total Cost	Target Value of Contract
G/ATOR	MIPR	MCOTEA, Quantico, VA	0.000	0.000	N/A	0.100	01/05	0.000	01/06	0.900	01/07	Cont	Cont	
MRRS OT Testing	WR	MCOTEA, Quantico, VA	0.000	0.093	11/05	0.000	N/A	0.000	N/A	01/00	N/A	0.000	0.093	
Subtotal T&E			0.000	0.093		0.100		0.000		0.900		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comple	Total Cost	Target Value of Contract
AN/TPS-59 Sustainment	C/CPFF	Anteon, Stafford, VA	1.739	1.352	10/03	0.850	01/05	0.750	01/06	0.750	01/07	Cont	Cont	
HELRASR (Modernization)	C/CPFF	Anteon, Stafford, VA	0.000	0.353	01/04	0.583	01/05	0.000	N/A	0.000	N/A	Cont	Cont	
HELRASR (Modernization)	WR	MCSC, Quantico, VA	0.000	1.072	01/04	0.982	01/05	0.000	N/A	0.000	N/A	Cont	Cont	
GWLR	WR	MCSC, Quantico, VA	0.000	0.126	10/03	0.060	10/04	0.050	10/05	0.050	10/06	Cont	Cont	
G/ATOR	WR	MCSC, Quantico, VA	2.200	0.810	12/03	1.527	12/04	2.574	12/05	2.951	12/06	Cont	Cont	
G/ATOR	C/CPFF	Anteon, Stafford, VA	0.800	2.040	10/03	3.794	10/04	2.823	10/05	2.605	10/06	Cont	Cont	
SHORT/MEDIUM RANGE	C/CPFF	Anteon, Stafford, VA	0.000	0.097	10/03	0.102	10/04	0.105	10/05	0.110	10/06	Cont	Cont	
SHORT/MEDIUM RANGE	WR	MCSC, Quantico, VA	0.000	0.015	10/03	0.018	12/04	0.020	12/05	0.024	12/06	Cont	Cont	
Subtotal Management			4.739	5.865		7.916		6.322		6.490		Cont	Cont	
Remarks:														
Total Cost			5.647	19.393		51.055		23.741		42.380		Cont	Cont	

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DATE:

February 2005

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

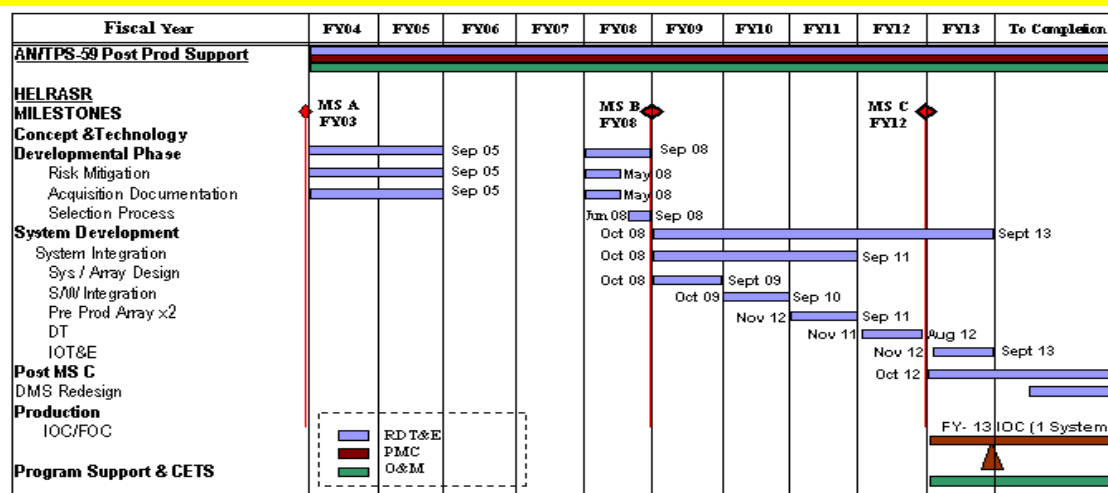
RDT&E, N/BA-7 OPERATIONAL SYS DEV

0206313M Marine Corps Communication Systems

C3099 RADAR SYSTEMS



Milestone Schedule AN/TPS-59(V)3 & HELRASR



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N, C2273 AN/TPS-59 Sustainment	0.000	2.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.577
(U) RDT&E,N, C3099 AN/TPS-59 (Sustainment)	6.018	5.153	2.501	8.558	5.123	5.102	5.500	2.300	Cont	Cont
(U) RDT&E,N, C3099 HELRASR (Modernization)	4.237	11.365	0.000	0.000	7.674	36.925	27.939	20.416	Cont	Cont
(U) PMC, BLI#465100, AN/TPS-59 (Sustainment)	13.160	24.371	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.531
(U) PMC, BLI#465100, Combat ID (OIF II)	1.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.312
(U) PMC, BLI#465000, AN/TPS-59 Sustainment	0.000	0.000	5.626	6.882	6.239	6.435	4.873	2.815	Cont	Cont

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AN/TPS-59 Sustainment Schedule	FY 02							

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Exhibit R-4-4a Project Schedule/Detail								DATE:	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 OPERATIONAL SYS DEV		0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS			
HELRASR (AN/TPS-59 Modernization) Schedule									
Milestone A		FY 03							
Concept & Technology Developmental Phase		FY 03-----4th Q				1st Q-4th Q			
Acquisition Documentation						1st Q-3rd Q			
Selection Process						3rd Q--4th Q			
Milestone B							1st Q		
System Development							1st Q-----		
System Integration							1st Q-----4th Q		
DT									FY 12
IOT&E									FY 13
Milestone C									FY 12
Production									FY 13
IOC									FY 13
FOC									FY 18
Program Support		3rd Q-----							

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Exhibit R-4-4a Project Schedule/Detail

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

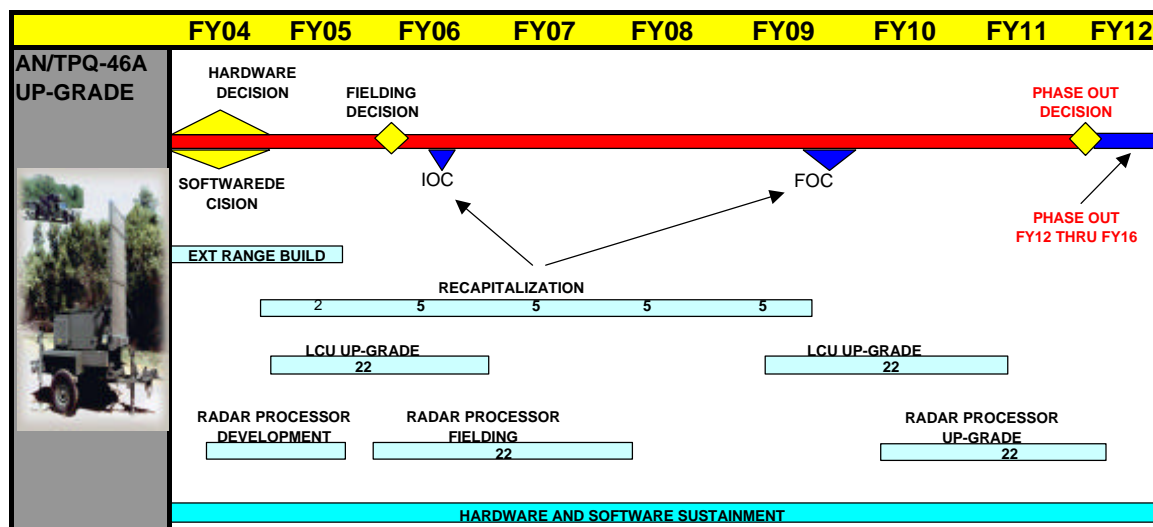
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 OPERATIONAL SYS DEV

0206313M Marine Corps Communication Systems

C3099 RADAR SYSTEMS

GROUND WEAPONS LOCATING RADAR SCHEDULE PROFILE



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N, C3099, GWLR
(U) PMC, BLI#465000, GWLR
(U) PMC, BLI#464200, GWLR

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N, C3099, GWLR	1.628	2.053	2.638	2.007	1.734	1.777	1.821	1.867	Cont	Cont
(U) PMC, BLI#465000, GWLR	0.000	0.000	6.015	9.746	9.218	2.128	2.541	2.845	Cont	Cont
(U) PMC, BLI#464200, GWLR	2.888	0.859	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.747

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Exhibit R-4-4a Project Schedule/Detail	DATE: February 2005
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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS

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Exhibit R-4-4a Project Schedule/Detail

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

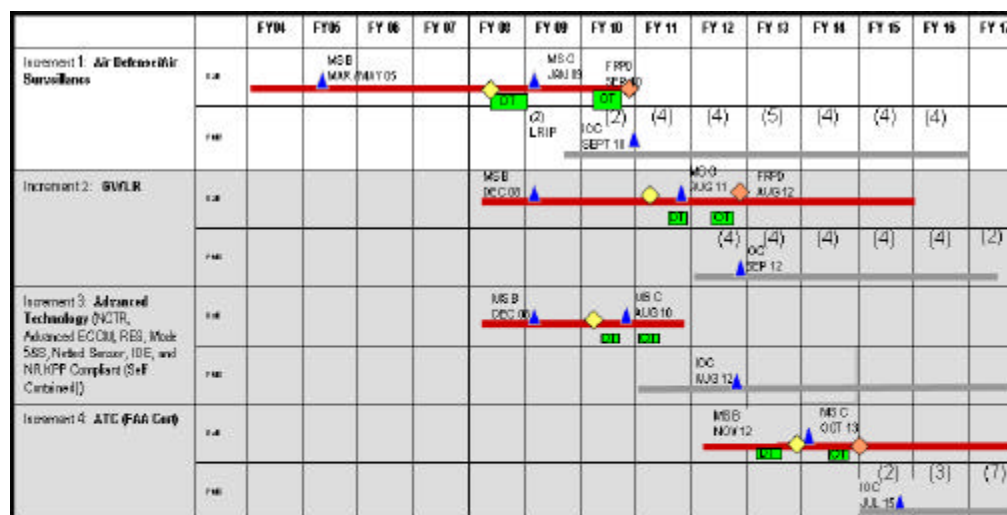
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 OPERATIONAL SYS DEV

0206313M Marine Corps Communication Systems

C3099 RADAR SYSTEMS

G/ATOR Overall Program Schedule



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N, C3099, G/ATOR
 (U) PMC, BLI#465000, G/ATOR

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N, C3099, G/ATOR	6.789	31.727	18.249	31.561	88.539	73.860	31.047	39.202	Cont	Cont
(U) PMC, BLI#465000, G/ATOR	0.000	0.000	0.000	0.000	0.000	44.564	104.123	113.349	Cont	Cont

G/ATOR SCHEDULE DETAIL

Increment 1

Concept & Technology Developmental Phase

R-1 SHOPPING LIST - Item No. 185

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Exhibit R-2a, RDTE,N Project Justification

(Exhibit R-2a, page 140 of 141)

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Exhibit R-4-4a Project Schedule/Detail							DATE:			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 OPERATIONAL SYS DEV		0206313M Marine Corps Communication Systems			C3099 RADAR SYSTEMS					
Selection Process		3rd Q-----3rd Q								
Milestone B			3rd Q							
System Development and Demonstration Phase			3rd Q-----3rd Q							
System Integration (EDM)					2nd Q-----2nd Q					
System Demonstration (DT)				3rd Q-----2nd Q						
Long Lead Items (EDM, LRIP & Production)				3rd Q-----Cont						
Milestone C						2nd Q				
Production Phase						2nd Q -----Cont				
LRIP						2nd Q-----2nd Q				
IOT&E						2nd--3rd Q				
IOC							4th Q			
Program Support							1st Q-----Cont			
Increment II										
Concept & Technology Developmental Phase						1st Q-----1st Q				
Milestone B						1st Q				
System Development and Demonstration Phase						1st Q-----4th Q				
System Demonstration (DT)								3rd Q-4th Q		
Long Lead Items							4th Q			
Milestone C								4th Q		
Increment III										
Concept & Technology Developmental Phase						1st Q-----1st Q				
Milestone B						1st Q				
System Development and Demonstration Phase						1st Q-----4th Q				
System Demonstration (DT)							2ndQ-3rd Q			
Milestone C							4th Q			
Production Phase								1st Q--Cont		
IOT&E								1st-2ndQ		

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EXHIBIT R-2, RDT&E Budget Item Justification					DATE:			
					February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT (PE) NAME AND NO.							
RDT&E, N /BA-7 Operational System Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems							
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	40.947	51.421	48.409	44.130	35.669	36.450	32.327	31.960
C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)	0.723	0.364	0.781	0.803	0.832	0.853	0.878	0.894
C1555 Light Armored Vehicle (LAV) PIP	3.877	15.130	12.179	5.482	1.391	1.387	1.417	1.441
C1901 Marine Corps Ground Weaponry PIP	9.873	3.063	6.932	9.029	7.463	7.706	7.670	7.402
C2086 Marine Enhanced Program (MEP)	2.194	2.629	2.711	2.571	2.671	2.708	2.766	2.818
B2237 Amphibious Vehicle Test Branch (AVTB)	0.000	0.804	0.836	0.855	0.884	0.903	0.929	0.947
C2503 Family of Combat Equip Support & Services	3.401	3.923	7.397	9.379	11.472	13.110	10.484	10.637
C2928 EIFGSWS (HIMARS)	6.266	2.996	4.145	6.150	2.374	0.489	0.000	0.000
C3098 Fire Support Systems	10.050	12.079	11.645	7.680	7.413	8.679	7.550	7.248
C4002 Family of Raid Reconnaissance	3.539	3.401	1.783	2.181	1.169	0.615	0.633	0.573
C9278 Integrated Digital Camera Riflescope	0.000	0.989	0.000	0.000	0.000	0.000	0.000	0.000
C9279 Body Armor Upgradera Riflescope	1.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C9641 LAV Integ Digital & Collaboration Enviornment	0.000	1.982	0.000	0.000	0.000	0.000	0.000	0.000
C9642 Compl Medal Oxide Semiconductor (CMOS)	0.000	0.990	0.000	0.000	0.000	0.000	0.000	0.000
C9643 Marine Advanced Combat Suit MACS)	0.000	2.081	0.000	0.000	0.000	0.000	0.000	0.000
C9644 Anti-Oxidant Micronutrients Program	0.000	0.990	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational System Development		PROGRAM ELEMENT (PE) NAME AND NO. 0206623M Marine Corps Ground Combat/Supporting Arms Systems																																																								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. It also provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control in the ADMS, and product improvements to the family of LAVs. The AVTB provides facilities and personnel which perform a broad range of testing, repair and technical services to amphibious vehicles.</p> <p>This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.</p>																																																										
<p>B. PROGRAM CHANGE SUMMARY</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2005 President's Budget:</td> <td style="text-align: right;">41.960</td> <td style="text-align: right;">44.828</td> <td style="text-align: right;">59.852</td> <td style="text-align: right;">55.668</td> </tr> <tr> <td>(U) Adjustments from the President's Budget:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> (U) Congressional/OSD Program Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> (U) Congressional Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> (U) Congressional Increases</td> <td></td> <td style="text-align: right;">7.100</td> <td></td> <td></td> </tr> <tr> <td> (U) POM 06 Core Adjustment</td> <td></td> <td></td> <td style="text-align: right;">8.422</td> <td style="text-align: right;">4.814</td> </tr> <tr> <td> (U) Reprogrammings</td> <td style="text-align: right;">-0.404</td> <td></td> <td style="text-align: right;">-19.995</td> <td style="text-align: right;">-14.990</td> </tr> <tr> <td> (U) SBIR/STTR Transfer</td> <td style="text-align: right;">-0.609</td> <td></td> <td></td> <td></td> </tr> <tr> <td> (U) Minor Affordability Adjustment</td> <td></td> <td style="text-align: right;">-0.507</td> <td style="text-align: right;">0.130</td> <td style="text-align: right;">-1.362</td> </tr> <tr> <td>(U) FY 2006 President's Budget:</td> <td style="text-align: right;">40.947</td> <td style="text-align: right;">51.421</td> <td style="text-align: right;">48.409</td> <td style="text-align: right;">44.130</td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: See Above.</p> <p>(U) Schedule:</p> <p>(U) Technical: Not Applicable.</p>					<u>FY2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) FY 2005 President's Budget:	41.960	44.828	59.852	55.668	(U) Adjustments from the President's Budget:					(U) Congressional/OSD Program Reductions					(U) Congressional Rescissions					(U) Congressional Increases		7.100			(U) POM 06 Core Adjustment			8.422	4.814	(U) Reprogrammings	-0.404		-19.995	-14.990	(U) SBIR/STTR Transfer	-0.609				(U) Minor Affordability Adjustment		-0.507	0.130	-1.362	(U) FY 2006 President's Budget:	40.947	51.421	48.409	44.130
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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C1555 Light Armored Vehicle (LAV) PIP			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
								FY 2011
Project Cost		3.877	15.130	12.179	5.482	1.391	1.387	1.417
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>The Light Armored Vehicle Family of Vehicles (LAV FOV) consists of seven fielded LAV configurations, and one communications/intelligence-configured asset on an LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air-Ground Task Force (MAGTF). The LAV Product Improvement Program funds the development and testing of modifications of four programs; the LAV Service Life Extension Program (SLEP) which includes the Improved Thermal Sight System (ITSS), the LAV-Command & Communication (LAV C2) Program, the LAV Lethality Program, and the LAV Reliability, Availability & Maintainability (LAV RAM) Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions through FY 2015 by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs. The LAV Lethality Program will upgrade the LAV 25's M242 gun and associated hardware and software necessary to enable the firing of M919 25mm Armor Piercing, Fin Stabilized, Discarding Sabot (Depleted Uranium) with tracer ammunition.</p>								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007			
Accomplishment/Effort Subtotal Cost		3.693	1.222	0.000	0.000			
RDT&E Articles Qty								
LAV SLEP ITSS: Develop ITSS prototypes, PMO & matrix support, PMO travel, Contracted Advisory Assistance Services (CAAS) and DT/OT of ITSS prototypes.								
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007			
Accomplishment/Effort Subtotal Cost		0.184	1.424	1.118	1.345			
RDT&E Articles Qty								
LAV RAM: Research and development of numerous LAV RAM projects to address minor modification, safety, and obsolescence issues.								
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007			
Accomplishment/Effort Subtotal Cost		0.000	12.484	11.061	2.760			
RDT&E Articles Qty								
LAV C2: LAV-C2 prototype development, demonstration and integration efforts, PMO & matrix support, PMO travel, CAAS in support of LAV-C2.								
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007			
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	1.377			
RDT&E Articles Qty								
LAV LETHALITY: System Development, Demonstration and integration efforts, PMO & matrix support, PMO travel & test ammo procurement in support of the LAV Lethality.								
(U) Total \$		3.877	15.130	12.179	5.482			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP
(U) PROJECT CHANGE SUMMARY:		
	<u>FY2004</u>	<u>FY2005</u>
(U) FY 2005 President's Budget	4.169	15.267
(U) Adjustments from the President's Budget:		
(U) Congressional/OSD Program Reductions		
(U) Congressional Rescissions		
(U) Congressional Increases		
(U) Reprogrammings	-0.292	-19.244
(U) SBIR/STTR Transfer		-18.265
(U) Minor Affordability Adjustment		-0.176
(U) FY 2006 President's Budget:	3.877	15.130
		12.179
		5.482
CHANGE SUMMARY EXPLANATION:		
(U) Funding: See Above.		
(U) Schedule: Not Applicable.		
(U) Technical: Not Applicable.		
(U) C. OTHER PROGRAM FUNDING SUMMARY:		
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) PMC, 203800, LAV PIP	35.823	62.844
(U) PANMC, 138800, LAV LETHALITY		0.000
		1.351
		0.579
		5.444
		6.103
		5.645
		0
		Cont
		Cont
(U) Related RDT&E: C9641 LAV IDE	1.982	

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C1555 Light Armored Vehicle (LAV) PIP
<p>(U) D. ACQUISITION STRATEGY: The LAV Service Life Extension Program (SLEP) which is comprised of the Basic SLEP and the Improved Thermal Sight System, is designed to extend the service life of the LAV Family of Vehicles through 2015, an increase of 12 to 15 years beyond its original projected useful life. This utilizes both developmental and off-the-shelf technologies to enhance survivability, lethality, mobility and sustainability while simultaneously reducing the cost of ownership. The Marine Corps uses multi-disciplined integrated product teams consisting of engineering, logistical, contracting and financial personnel to manage the SLEP. SLEP contracts have been designed using a winner-take-all methodology in order to reduce costs and encourage competition.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV C2 upgrade will be utilizing commercial off-the-shelf, government off-the-shelf, and non-developmental item hardware and software to provide an integrated suite capable of voice and data transmissions. It is anticipated that the majority of the effort will be the integration of existing hardware and software for this upgrade. To the maximum extent possible, components from both the Marine Corps and Army Common Hardware Suites will be utilized to reduce costs. The system architecture has been determined through a Tailored Executive Analysis. The integration of the government specified hardware and software will be conducted through a competitive process. Two contractors will be selected to fabricate prototypes which will be subjected to a limited user evaluation (LUE). The results of the LUE and firm production prices will lead to a down-selection to a single source for the completion of the System Development and Demonstration and Production phases.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV RAM project funds numerous low-dollar, yet extremely important minor modifications, support equipment and tools and other such projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The Marine Corps, PM-LAV, Sustainment Management Team uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage RAM projects. The majority of contracts issued under the RAM line are subject to the competitive acquisition process.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV Lethality upgrade will provide for the use of depleted uranium (DU) ammunition during combat operations to increase the lethality of the LAV 25's M242 machine gun. The Bradley Fighting Vehicle (BFV) uses the M242 and has the capability to fire DU ammunition. PM, LAV will buy standard components for the M242 and have them installed on the LAV 25's M242. A sole source contract will be initiated with Raytheon to insert the DU firing tables into the Improved Thermal Sight System utilized by the LAV 25. This contract will also include taking the Army's existing technical manual (TM) data on the upgraded M242 components and incorporate it into the LAV 25 TM data .</p>		

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP
<p>(U) E. MAJOR PERFORMERS:</p> <p>LAV SLEP/ITSS</p> <p>FY04 Raytheon Company, McKinney, TX. DT In-Process. Oct 03 DRS Corporation, Fort Walton Beach, FLA. System Technical Support (STS) Support. Oct 03. SURVICE Engineering Company, Belcamp, MD. ITSS development & test support. Oct 03. MCCDC, Quantico, VA, OT preparation. Oct 04. TACOM, Warren, MI. PMO support. Oct 04.</p> <p>FY05 Raytheon Company, McKinney, TX. OT to be conducted/production award. Oct 04. DRS Corporation, Fort Walton Beach, FLA. -complete the installation. Oct 04. MCCDC, Quantico, VA, OT completion. Oct 04. SURVICE Engineering Company, Belcamp, MD. ITSS test support. Oct 04.</p> <p>LAV RAM</p> <p>FY04 Various FY05 Various FY06 Various FY07 Various</p> <p>LAV C2 Upgrade Program starts in FY 05.</p> <p>FY05-07 Major performers have not been determined as of this date.</p> <p>LAV LETHALITY Program starts in FY 07.</p> <p>FY07 Raytheon Company, McKinney, TX. Integration of DU firing tables into ITSS. Jan 07.</p>		

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Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems					C1555 Light Armored Vehicle (LAV) PIP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	CPFF	GTRI/SURVICE, Belcamp MD	1.189									0.000	1.189	1.189
Primary Hardware Dev Spt	CPFF	GTRI/SURVICE, Belcamp MD	1.189									0.000	1.189	1.189
Gov't Dev Engineering	MIPR	In-House Product Dev	1.560									0.000	1.560	1.560
Product Development (ITSS)	Various	Raytheon, McKinney TX	22.034	0.835	3Q04							Cont	Cont	
Product Development (RAM)	Various	Various	2.074	0.184	VAR	1.212	VAR	0.986	VAR	1.115	VAR	Cont	Cont	
Product Development (C2-GFE)	Various	TBD				1.858	2Q05	1.941	1Q06					
Product Development (C2)	Various	TBD				9.838	3Q05	6.242	1Q06	1.081	1Q07	0.000	17.161	
CAAS	MIPR	SURVICE, Belcamp, MD	0.275	0.275	1Q04	0.143	1Q05	0.145	1Q06				0.838	
Subtotal Product Dev			27.132	1.294		13.051		9.314		2.196		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support														
Technical Eng Services (C2)	MIPR	TACOM	0.000			0.135	1Q05	0.147	1Q06			0.000	0.282	0.590
Subtotal Support			0.000	0.000		0.135		0.147		0.000		0.000	0.282	0.590
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation														
Devl/Oper Test & Eval (SLEP/ITSS)	MIPR	Yuma Prv Ground, AZ	6.155	1.894	Various	0.359	Various						8.408	
Devl/Oper Test & Eval	MIPR	Aberdeen Test Center, MD	2.575										2.575	
Devl/Oper Test & Eval (SLEP/ITSS)	MIPR	MCOTEA, Quantico, VA	0.725	0.197	Various	0.604	Various						1.526	
Devl/Oper Test & Eval (C2)	MIPR	TBD					Various	1.691	Various	1.437	1Q07		3.128	
Devl/Oper Test & Eval (Lethality)	MIPR	TBD								0.730	3Q07		0.730	
Subtotal T&E			9.455	2.091		0.963		1.691		2.167		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Management	VAR	TACOM, Warren, MI	2.810	0.245	1Q04	0.896	Various	0.877	Various	1.024	Various	Cont	Cont	
Matrix Support	MIPR	ARDEC/NVL/TACOM, MI	0.796	0.247	Various	0.085	Various	0.150	Various	0.095	Various	Cont	Cont	
Subtotal Management			3.606	0.492		0.981		1.027		1.119		Cont	Cont	
Remarks:														
Total Cost			40.193	3.877		15.130		12.179		5.482		Cont	Cont	

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Exhibit R-3, Project Cost Analysis
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Exhibit R-4/4a Schedule Profile/Detail					DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C1555 Light Armored Vehicle (LAV) PIP						
(U) D. SCHEDULE PROFILE:											
<u>LAV SLEP</u>											
	Milestone 0:	1st Qtr, FY 1998			Milestone III:	2nd Qtr, FY 2002					
	Milestone I:	2nd Qtr, FY 1999			Contract Award:	3rd Qtr, FY 2002					
	Milestone II:	2nd Qtr, FY 2000			IOC:	2nd Qtr, FY 2004					
	DT / OT:	2nd Qtr, FY 2001			FOC:	2nd Qtr, FY 2009					
<u>LAV C2</u>											
	Milestone A:	2nd Qtr, FY2000			Contract Award:	2nd Qtr, FY 2007					
	Milestone B:	2nd Qtr, FY2005			IOC:	2nd Qtr, FY 2009					
	DT / OT:	4th Qtr, FY 2006			FOC:	4th Qtr, FY 2011					
	Milestone C:	2nd Qtr, FY 2007									
<u>LAV LETHALITY</u>											
	Milestone A:	Not Required			Contract Award:	1st Qtr, FY 2008					
	Milestone B:	1st Qtr, FY 2007			IOC:	4th Qtr, FY 2008					
	DT / OT:	3rd Qtr, FY2007			FOC:	2nd Qtr, FY 2010					
	Milestone C:	4th Qtr, FY2007									
<u>Program Funding</u>		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(APPN, BLI #, NOMEN)											
(U) RDT&E,N		3.877	15.130	12.179	5.482	1.391	1.387	1.417	1.441	Cont	Cont
(U) RDT&E, N #C9641 LAV IDE		0.000	1.982	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC, BLI# 203800 LAV		35.823	62.844	59.699	32.325	42.053	36.553	6.103	5.645	Cont	Cont
(U) PANMC, 138800, LAV LETHALITY				0.000	1.351	0.579	5.444	5.473	0	Cont	Cont

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Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1555 Light Armored Vehicle (LAV) PIP				
LAV SCHEDULE DETAIL		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
LAV SLEP										
Milestone III:										
Contract Award:										
IOC:			2Q							
FOC:							2Q			
LAV C2										
Milestone A:										
Milestone B:				2Q						
DT / OT:					4Q					
Milestone C:						2Q				
Contract Award:						2Q				
IOC:							2Q			
FOC:									4Q	
LAV LETHALITY										
Milestone A:										
Milestone B:						1Q				
DT / OT:						3Q				
Milestone C:						4Q				
Contract Award:							1Q			
IOC:							4Q			
FOC:								2Q		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1901 Marine Corps Ground Weaponry PIP			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY10	FY11
Project Cost		9.873	3.063	6.932	9.029	7.463	7.706	7.670	7.402
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>(U) This project develops joint and Marine Corps unique improvements to infantry weapons and artillery technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, Thermal Weapons Sight, Small Unit Remote Scouting System (SURSS) and monitors national and international weapons development.</p> <p>(U) MARINE CORPS AIR GROUND COMBAT CENTER (MCAGCC) RANGE INSTRUMENTATION: Converges training occurring at the Marine Air Ground Task Force Training Command (MAGTFTC), Twenty-Nine Palms, CA with training of other forces occurring at participating Joint National Training Center (JNTC) ranges and with the standing Joint Task Force (JTF), Suffolk, VA. The Marine Corps JNTC strategy is to integrate Live, Virtual, and Constructive (L-V-C) training environments currently utilized or being developed. FY04 funds developed architecture and interfaces to integrate range instrumentation and simulation to digitally capture dismounted infantry and weapon system platform operations, to record command and control communications for after action, to provide integrated targetry, battlefield effects and Military Operations in Urban Terrain (MOUT) training environments, and designed the protocol transferring the correlated digital exercise picture to other JNTC recipients and the Joint Training and Simulation Center (JTASC) within the Joint Forces Command.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.600	0.360				
RDT&E Articles Qty									
Automatic Rifle: This funding will provide field testing and evaluation of test results and program management in support of the program development for the new Marine Corps Automatic Rifles.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.450	1.350				
RDT&E Articles Qty									
Company and Battalion Mortars: This funding will be used to provide system development and demonstration, pre-Milestone C activities, and purchasing Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	3.308				
RDT&E Articles Qty									
Family of Individual Optics: This funding will be utilized to support improvements on the technology that is currently used. Research efforts will evaluate the possibility of combining / integrating disparate sensor technology to increase the overall capability. One example will be combining the Infrared (IR) and Image Intensifier (I2) technologies into one system.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.100	0.050				
RDT&E Articles Qty									
Rifle Combat Optics: This funding will be predominantly expended during the test and evaluation phase of this program. Samples of potential material solutions will need to be procured to accomplish a limited user evaluation and complete technical and environmental testing.									

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EXHIBIT R-2a, RDT&E Project Justification			DATE:		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems		C1901 Marine Corps Ground Weaponry PIP		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.356	0.988	0.999	1.061	
RDT&E Articles Qty					
Infantry Weapons Mods: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps infantry/reconnaissance individual /crew-served weapons. Past years' efforts have impacted the safety of M2 Machine Guns and M249 Squad Automatic Weapons and have included the new M40A3 Sniper Rifle, the mortar systems, and the current Marine Expeditionary Unit Special Operations Capability (MEU SOC) .45 caliber pistol efforts. Issues particularly related to safety are recurring events from year to year that require immediate attention to maintain an operational readiness posture. Likewise, we will continue to pursue potential technological advances that will significantly enhance the operational utility of both individual and crew-served weapon systems.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.914	0.748	1.243	0.480	
RDT&E Articles Qty					
Small Unit Remote Scouting System (SURSS): Funds will be used for development, demonstration and testing of product improvements and block upgrades to meet increasingly demanding Operational Requirements Document (ORD) thresholds.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	1.088	1.091	2.240	2.112	
RDT&E Articles Qty					
Night Vision Mod Line: Joint participation and Marine Corps unique activities for evaluation of safety, lethality and technology improvements for Marine Corps night vision devices. Provides for In-Service Engineering Agent (ISEA) support at Naval Surface Warfare Center (NSWC), Crane, IN. Participate with Army Program Manager (PM) - Night Vision at Ft. Belvoir on new enhancements for Image Intensification (I2) and fused multispectral weapon sight. Travel to support enhanced systems development and review of tests.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	1.738	0.181	0.300	0.308	
RDT&E Articles Qty					
Tactical Unmanned Vehicle (TUV): Funds will be used for developmental testing at Redstone Arsenal.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.000	-0.056	0.000	0.000	
RDT&E Articles Qty					
Initial Issue: Provided to units during the initial issue of equipment for spare parts in the beginning year.					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	0.055	0.111	0.000	0.000	
RDT&E Articles Qty					
Thermal Weapons Sight (TWS)[AN/PAS-13: Provided for joint participation in Pre-Planned Product Improvement (P3I) for TWS – remote image transfer, laser range finder, aimport reticle (mechanical, quadrant-style sight), mounting brackets for future small arms weapons, vertical angle measurement, and automated aimport reticle (non-mechanical, non-quadrant style, computer-driven sight).					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	
Accomplishment/Effort Subtotal Cost	5.722	0.000	0.000	0.000	
RDT&E Articles Qty					
MCAGCC Range Instrumentation: Integrated Global Positioning System (GPS) Radio System (IGRS) display upgrades, systems integration, radio voice capture, After Action Review (AAR) integration, image tracking, Live-to-CACCTUS integration, aviation engineering analysis, systems engineering & acquisition support.					
(U) Total \$	9.873	3.063	6.932	9.029	

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C1901 Marine Corps Ground Weaponry PIP					
(U) PROJECT CHANGE SUMMARY:											
	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>							
(U) FY 2005 President's Budget:	8.797	3.101	4.072	4.253							
(U) Adjustments from the President's Budget:											
(U) Congressional Program Reductions											
(U) Congressional Rescissions											
(U) Congressional Increases											
(U) POM FY06 CORE Adjustment			2.696	4.961							
(U) Reprogrammings	1.242		0.150	0.150							
(U) Small Business Innovation Research	-0.166										
(U) Minor Affordability Adjustment		-0.038	0.014	-0.335							
(U) FY 2006 President's Budget:	9.873	3.063	6.932	9.029							
CHANGE SUMMARY EXPLANATION:											
(U) Funding: See above.											
(U) Schedule: Not Applicable.											
(U) Technical: Not Applicable.											
(U) C. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>	
(U) PMC (BLI#206100) Mod Kits IWS	0.000	0.000	10.638	10.219	10.261	8.905	9.069	9.214	Cont	Cont	
(U) PMC (BLI#220900) Mod Kits IWS	4.127	3.236	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.363	
(U) PMC (BLI#222000) Under \$5 Million	14.158	6.762	7.743	10.871	26.028	33.380	12.333	10.629	Cont	Cont	
(U) PMC (BLI#233400) Modular Weapon System	13.122	10.013	23.604	0.000	0.000	0.000	0.000	0.000	0.000	46.739	
(U) PMC (BLI#493000) Night Vision Equipment	31.447	41.639	20.795	17.285	28.668	37.899	26.438	26.182	Cont	Cont	
(U) PMC (BLI#473400) SURSS	1.820	8.832	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.652	
(U) PMC (BLI#474700) INTEL SP EQP SURSS	0.000	0.000	16.029	12.848	8.877	14.552	4.601	4.270	Cont	Cont	
(U) PMC (BLI# 653200) Trng Dev/Sims	42.118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.118	
(U) Related RDT&E:											
(U) All Ground Weapons and Ground Ammunition Systems: Army, Navy, Air Force, Coast Guard, and Special Operations Command											
(U) D. ACQUISITION STRATEGY:											
(U) These programs range from off-the-shelf modifications to developmental items. Modification covers safety, reliability, and technology up-grades to meet Marine Corps requirements.											
(U) MCAGCC Range Instrumentation - Award a sole source development contract (June 04) to SRI International for IGRS Display Upgrades, Systems Integration, Radio Voice Capture/AAR Integration, Image Tracking, and Live-to-CACCTUS Integration. Awarded an Aviation Engineering Analysis contract to Sensis Corporation, Apr 04 (T&M). Award a Systems Engineering/Acquisition Support Contract to MKI Systems, Inc., April 04 (FFP).											
(U) E. MAJOR PERFORMERS:											
1Qtr 04, 1Qtr 05, 1Qtr 06, 1Qtr 07 - NSWC, Crane, IN - Product development.											
3Qtr 04 - SRI International, Menlo Park, CA - Product development.											
3Qtr 04 - Sensis Corporation, Dewitt, NY - Development support.											
3Qtr 04 - MKI Systems, Orlando, FL - Management support.											
4Qtr 04, 1Qtr 05, 1Qtr 06, 1Qtr 07 - AeroVironment, Simi Valley, CA - Product development.											

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Exhibit R-3 Cost Analysis						DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N /BA 7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting			C1901 Marine Corps Ground Weaponry PIP									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT		SEE BELOW													
Inf Wpns Mods	WR/RCP	MCCDC, Quantico, VA	0.867			0.051	1Q05	0.060	1Q06	0.051	1Q07	Cont	Cont		
Inf Wpns Mods	WR	WTBN, Quantico, VA	0.184			0.204	2Q05	0.220	1Q06	0.225	1Q07	Cont	Cont		
Inf Wpns Mods	MILSTRIP	MCSC, Quantico, VA		0.024	1Q04			0.229	2Q06	0.290	2Q07	Cont	Cont		
SURSS	RCP	AeroVironment, Simi Valley, CA		0.318	4Q04	0.360	1Q05	0.715	1Q06	0.092	1Q07	Cont	Cont		
SURSS	RCP	MCSC, Quantico, VA		0.030	4Q04							0	0.030		
Automatic Rifle	RCP	TBD						0.050	1Q06	0.010	1Q07	Cont	Cont		
Company/Battalion Mortar	RCP	TBD						0.200	1Q06	0.200	1Q07	Cont	Cont		
Company/Battalion Mortar	Var	TBD, Various						0.900	1Q06	0.800	1Q07	Cont	Cont		
Family of Individual Optics	WR/RCP	NSWC, Crane, IN								2.803	1Q07	Cont	Cont		
Nt. Vision Mod	WR/RCP	NSWC, Crane, IN	0.414	0.784	1Q04	0.684	1Q05	1.807	1Q06	1.653	1Q07	Cont	Cont		
Nt. Vision Mod	MIPR	Night Vision Lab, Ft Belvoir, VA	0.587	0.100	1Q04	0.105	1Q05	0.110	1Q06	0.115	1Q07	Cont	Cont		
TWS	MIPR	Night Vision Lab, Ft Belvoir, VA	0.262	0.055	1Q04	0.087	1Q03					Cont	Cont		
Initial Issue	MIPR	TBD				-0.056	1Q05					0	-0.056		
TUV	MIPR	Redstone Arsenal, AL		1.738	1Q04	0.181	1Q05	0.300	1Q06	0.308	1Q07	Cont	Cont		
MCAGCC Range Inst	RCP(FFP)	SRI Int'l, Menlo Park, CA		3.675	3Q04								3.675		
Subtotal Product Dev			2.314	6.724		1.616		4.591		6.547		Cont	Cont		
Remarks:															
Cost Categories (Tailor to WBS, or System/Iter Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PROGRAM SUPPORT		SEE BELOW													
Inf Wpns Mods	WR	MCSC, Quantico, VA	0.677	0.088	1Q04	0.150	1Q05	0.100	1Q06	0.100	1Q07	Cont	Cont		
Inf Wpns Mods	RCP	BAEST, Stafford, VA	0.739	0.108	1Q04	0.386	1Q05	0.390	1Q06	0.395	1Q07	Cont	Cont		
Inf Wpns Mods	RCP	MCSC, Quantico, VA		0.136	2Q04	0.013	1Q05					0.000	0.149		
SURSS	RCP	BAEST, Stafford, VA	0.358	0.179	1Q04	0.179	1Q05	0.179	1Q06	0.179	1Q07	Cont	Cont		
SURSS (Civ Sal)	WR	NSWC, Dahlgren, VA		0.165	1Q04	0.165	1Q05	0.165	1Q06	0.165	1Q07	Cont	Cont		
SURSS	WR	MCSC, Quantico, VA	0.034	0.007	1Q04							0.000	0.041		
SURSS	RCP	MCSC, Quantico, VA		0.090	2Q04										
SURSS	RCP	AeroVironment, Simi Valley, CA		0.094	2Q04							0.000	0.094		
SURSS	MIPR	Joint Spectrum Ctr, Annapolis, MD		0.031	1Q04	0.044	1Q05	0.044	1Q06	0.044	1Q07	Cont	Cont		
Automatic Rifle	RCP	TBD						0.200	1Q06	0.200	1Q07	Cont	Cont		
Company/Battalion Mortar	RCP	TBD						0.100	1Q06	0.100	1Q07	Cont	Cont		
Nt Vision Mod	WR	MCSC, Quantico, VA	0.179	0.126	1Q04	0.137	1Q05	0.148	1Q06	0.159	1Q07	Cont	Cont		
Nt Vision Mod	RCP	BAEST, Stafford, VA	0.297	0.053	2Q04	0.140	2Q05	0.150	1Q06	0.160	1Q07	Cont	Cont		
Family of Individual Optics	WR	MCSC, Quantico, VA								0.300	1Q07	Cont	Cont		
TWS	RCP	BAEST, Stafford, VA	0.037			0.024	2Q05					0.000	0.061		
MCAGCC Range Inst	RCP (FFP)	SENSIS Corp., Dewitt, NY		0.556	3Q04							0.000	0.556		
Subtotal Support			2.321	1.633		1.238		1.476		1.802		Cont	Cont		
Remarks:															

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Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting			C1901 Marine Corps Ground Weaponry PIP								
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E		SEE BELOW												
Inf Wpns Mods	WR	MCOTEA, Quantico, VA	0.140			0.099	2Q05					0.000	0.239	
Inf Wpns Mods	WR	MCCDC, Quantico, VA	0.285			0.085	2Q05					0.000	0.370	
Automatic Rifle	WR	MCOTEA, Quantico, VA						0.350	1Q06	0.150	1Q07	Cont	Cont	
Company/Battalion Mortar	WR	MCOTEA, Quantico, VA						0.250	1Q06	0.250	1Q07	Cont	Cont	
SURSS	TBD	TBD						0.040	2Q06			0.000	0.040	
SURSS	MIPR	MCOTEA, Quantico, VA						0.100	2Q06			0.000	0.100	
Family of Individual Optics	WR	MCOTEA, Quantico, VA								0.205	1Q07	Cont	Cont	
Rifle Combat Optics	WR	MCOTEA, Quantico, VA						0.100	2Q06	0.050	2Q07	Cont	Cont	
Nt Vision Mods	WR	MCOTEA, Quantico, VA	0.125	0.025	2Q04	0.025	2Q05	0.025	2Q06	0.025	2Q07	Cont	Cont	
Subtotal T&E			0.550	0.025		0.209		0.865		0.680		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MANAGEMENT		SEE BELOW												
MCAGCC Range Inst	RCP (FFP)	MKI Systems, Orlando, FL	0.000	1.491	3Q04							0.000	1.491	
Subtotal Management			0.000	1.491		0.000		0.000		0.000		Cont	Cont	
Remarks:														
Total Cost			5.185	9.873		3.063		6.932		9.029		Cont	Cont	

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Exhibit R-4/4a Schedule Profile/Detail								DATE:	
February 2005									
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME	
RDT&E, N /BA 7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1901 Marine Corps Ground Weaponry PIP	

FAMILY OF INDIVIDUAL OPTICS

Fiscal Year	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Individual Marine Infantry Weapons Sights													
IMIWS MS B (FY06)													
IMIWS MS C (FY07 3 rd Qtr)													
Marine Handheld/Helmet Mounted Optic													
MHHMO MS B (FY07)													
MHHMO MS C (FY08 4 th Qtr)													

Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N C1901 Fam of Indiv Optics	0.000	0.000	0.000	3.308	2.410	2.453	2.498	2.542	Cont	Cont
(U) PMC, BLI# 493000 Fam of Indiv Optics	0.000	0.000	0.000	0.000	7.904	11.243	11.464	11.679	Cont	Cont

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Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1901 Marine Corps Ground Weaponry PIP

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Exhibit R-4/4a Schedule Profile/Detail							DATE:		February 2005																														
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME																															
RDT&E, N /BA 7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1901 Marine Corps Ground Weaponry PIP																															
SMALL UNIT REMOTE SCOUTING SYSTEM																																							
FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007							
1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4							
SYSTEM DESIGN & DEVELOPMENT				★ ISURSS Program Initiation																																			
				▲				NRL Prototype Development																															
								★ Contract Award																															
								▲				Option 1 System Development																											
								▲				SURSS ORD Development																											
TESTING								▲				User Evaluations & Vendor Feedback																											
								▲				Option 2 System Production																											
												▲				Extended User Assessment																							
												▲				Option 3 System Production																							
												▲				Operational Assessment (Fly-off)																							
												★				Source Selection/MS C Decision																							
PRODUCTION & DEPLOYMENT												★				Production & Support Contract Award																							
																★				Initial Operational Capability (IOC)																			
																								★				Full Operational Capability (FOC)											

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Exhibit R-4/4a Schedule Profile/Detail			DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME		
RDT&E, N /BA 7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1901 Marine Corps Ground Weaponry PIP		

Small Unit Remote Scouting System Schedule Detail	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Program Initiation	2Q							
NRL Prototype Development	2Q							
Contract Award		4Q						
Option 1 System Development		4Q						
SURSS ORD Development			2Q					
User Evaluations & Vendor Feedback			3Q					
Option 2 System Production			4Q					
Extended User Assessment				1Q				
Option 3 System Production				1Q				
Operational Assessment (Fly-Off)				3Q				
Source Selection / MS C Decision					1Q			
Production & Support Contract Award					2Q			
IOC					3Q			
FOC							4Q	

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Exhibit R-4/4a Schedule Profile/Detail						DATE:	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			February 2005	
RDT&E, N /BA 7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C1901 Marine Corps Ground Weaponry PIP	

COMPANY AND BATTALION MORTARS

ID	Task Name	Duration	Start	Finish	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012
					H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
1	Pre-MS Activities	631 days	Mon 03/03/03	Mon 08/01/05																			
2	Business Case Analysis	156 days	Mon 03/03/03	Mon 10/06/03																			
3	Technology Research and analysis	457 days	Fri 10/31/03	Mon 08/01/05																			
4	RFP	430 days	Mon 10/03/05	Fri 05/25/07																			
5	Source Selection	430 days	Mon 10/03/05	Fri 05/25/07																			
6	RDT&E	400 days	Mon 10/03/05	Fri 04/13/07																			
7	Evaluation	30 days	Mon 10/03/05	Fri 11/11/05																			
8	Safety Certification	180 days	Mon 11/14/05	Fri 07/21/06																			
9	Shoot-off	90 days	Mon 07/24/06	Fri 11/24/06																			
10	Select Best Value	10 days	Mon 11/27/06	Fri 12/08/06																			
11	D/T & O/T	90 days	Mon 12/11/06	Fri 04/13/07																			
12	Modifications	30 days	Mon 04/16/07	Fri 05/25/07																			
13	LRIP	480 days	Mon 05/28/07	Fri 03/27/09																			
14	Evaluation	90 days	Mon 05/28/07	Fri 09/28/07																			
15	Modifications	90 days	Mon 10/01/07	Fri 02/01/08																			
16	RFP	300 days	Mon 02/04/08	Fri 03/27/09																			
17	Evaluations	30 days	Mon 02/04/08	Fri 03/14/08																			
18	Manufacturing	270 days	Mon 03/17/08	Fri 03/27/09																			
19	Fielding	610 days	Fri 03/27/09	Mon 08/01/11																			
20	IOC Company Mortars	0 days	Fri 03/27/09	Fri 03/27/09																			
21	FOC Company Mortars	0 days	Mon 08/01/11	Mon 08/01/11																			

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N C1901 Co and Bn Mortars

(U) PMC, BLI# 222000 Co and Bn Mortars

FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0.000	0.000	1.450	1.350	1.000	1.000	1.000	0.500	Cont	Cont
0.134	3.105	1.500	0.000	4.193	3.187	3.209	3.207	Cont	Cont

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Exhibit R-4/4a Schedule Profile/Detail							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems					C1901 Marine Corps Ground Weaponry PIP				
Company and Battalion Mortars	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Pre-MS Activities	2Q									
Business Case Analysis	2Q									
Technology Research and Analysis		1Q								
RFP				1Q						
Source Selection				1Q						
RDT&E				1Q						
Source Selection RDT&E Evaluation				1Q						
Safety Certification				1Q						
Shoot-Off				4Q						
Select Best Value					1Q					
DT & OT					1Q					
Modifications					3Q					
LRIP					3Q					
LRIP Evaluation					3Q					
LRIP Modifications						1Q				
RFP						2Q				
LRIP RFP Evaluations						2Q				
LRIP RFP Modifications						2Q				
Fielding							2Q			
IOC Company Mortars							2Q			
FOC Company Mortars									4Q	

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Arms Systems			C2086 Marine Enhancement Program (MEP)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY10	FY11
Project Cost	2.194	2.629	2.711	2.571	2.671	2.708	2.766	2.818
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Marine Enhancement Program (MEP) provides Research, Development, Test and Evaluation funding for low visibility, low cost items. It focuses on items of equipment which will benefit the individual Marine by reducing the load, increasing survivability, enhancing safety and improving combat effectiveness. The emphasis of the program is on non-developmental item/commercial off the shelf (NDI/COTS) available items which can be quickly evaluated and fielded. This program is coordinated with the Army's Soldier Enhancement Program and the Special Operations Command.</p> <p>(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:</p>								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	0.989	0.858	0.840	0.854				
RDT&E Articles Qty								
Explored NDI equipment that would improve the combat effectiveness and enhance safety and survivability of the Individual Marine.								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	0.735	0.894	0.879	0.892				
RDT&E Articles Qty								
Explored clothing and individual equipment that would improve the combat effectiveness and enhance safety and survivability of the individual Marine.								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	0.470	0.877	0.992	0.825				
RDT&E Articles Qty								
Explored ground weapons, communications and command and control equipment that would improve the combat effectiveness and enhance safety and survivability of the individual Marine.								
(U) Total \$	2.194	2.629	2.711	2.571				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Arms Systems	C2086 Marine Enhancement Program (MEP)

(U) Project Change Summary:	FY2004	FY2005	FY2006	FY2007					
(U) FY 2005 President's Budget:	2.603	2.655	2.608	2.651					
(U) Adjustments from the President's Budget:									
(U) Congressional/OSD Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	-0.396								
(U) SBIR/STTR Transfer	-0.013								
(U) Minor Affordability Adjustment		-0.026	0.103	-0.08					
(U) FY 2006 President's Budget:	2.194	2.629	2.711	2.571					
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011 To Compl	Total Cost
(U) PMC (BLI #221100) MEP	11.620	4.009	0.000	0.000	0.000	0.000	0.000	0.000	15.629
(U) PMC (BLI#220800) Weapons Enhancement Pgm	0.000	0.000	5.357	5.383	5.641	9.932	5.975	6.089	Cont Cont
(U) Related RDT&E:									
 (U) D. ACQUISITION STRATEGY: NDI/COTS									

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		February 2005
PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Arms Systems		C2086 Marine Enhancement Program (MEP)
(U) E. MAJOR PERFORMERS:		
<u>Performer</u>	<u>Effort</u>	<u>FY</u> <u>Award Date</u> <u>(\$000) Amt</u>
RDECOM, Natick MA	Product Development	2004 Dec-03 164
RDECOM, Natick MA	DT&E	2004 Dec-03 348
Various	Product Development	2004 Various 240
Various	DT&E	2004 Dec-03 881
Operating Forces	OT&E	2004 Nov-03 300
RDECOM, Natick MA	Product Development	2005 Dec-04 176
RDECOM, Natick MA	DT&E	2005 Dec-04 373
TBD	Product Development	2005 Various 257
TBD	DT&E	2005 Various 946
Operating Forces	OT&E	2005 Mar-05 322
RDECOM, Natick MA	Product Development	2006 Dec-05 173
RDECOM, Natick MA	DT&E	2006 Dec-05 367
TBD	Product Development	2006 Various 253
TBD	DT&E	2006 Various 929
Operating Forces	OT&E	2006 Mar-06 316
RDECOM, Natick MA	Product Development	2007 Dec-06 176
RDECOM, Natick MA	DT&E	2007 Dec-06 373
TBD	Product Development	2007 Various 257
TBD	DT&E	2007 Various 944
Operating Forces	OT&E	2007 Mar-07 321
RDECOM (Research Development and Engineering Command) formerly known as SBCCOM (Soldier Biological and Chemical Command)		

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Exhibit R-3 Cost Analysis					DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N /BA 7 Operational Sys Dev			Corps Ground Combat Arms Systems		C2086 Marine Enhanced Program (MEP)									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Comp	Total Cost	Target Value of Contract
Product Development	Various	Various	5.508	0.140	Various	0.257	Various	0.306	Various	0.257	Various	Cont	Cont	
Product Development	MIPR	RDECOM, Natick, Mass	3.764	0.164	1Q04	0.176	1Q05	0.173	1Q06	0.176	1Q07	Cont	Cont	
Product Development	WR	NFEC, Pt Hueneme, CA	1.102	0.048	3Q04	0.052	2Q05	0.051	2Q06	0.051	2Q07	Cont	Cont	
Product Development	WR	NSWC, Crane, IN	1.454	0.064	1Q04	0.069	1Q05	0.067	1Q06	0.069	1Q07	Cont	Cont	
Subtotal Product Dev			11.828	0.416		0.554		0.597		0.553		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complet	Total Cost	Target Value of Contract
Operational Test & Eval	WR	2nd MARDIV, CamLej, NC	6.997	0.300	1Q04	0.322	2Q05	0.316	2Q06	0.321	2Q07	Cont	Cont	
Subtotal Support			6.997	0.300		0.322		0.316		0.321		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complet	Total Cost	Target Value of Contract
Developmental Test & Eval	Various	Various	13.221	0.797	Various	0.920	Various	0.979	Various	0.864	Various	Cont	Cont	
Developmental Test & Eval	MIPR	RDECOM, Natick, Mass	8.987	0.348	1Q04	0.373	1Q05	0.367	1Q06	0.373	1Q07	Cont	Cont	
Developmental Test & Eval	WR	NFEC, Pt Hueneme, CA	3.341	0.102	3Q04	0.109	2Q05	0.108	2Q06	0.109	2Q07	Cont	Cont	
Developmental Test & Eval	WR	NSWC, Crane, IN	4.122	0.136	1Q04	0.146	1Q05	0.143	1Q06	0.146	1Q07	Cont	Cont	
Subtotal T&E			29.671	1.383		1.548		1.597		1.492		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complet	Total Cost	Target Value of Contract
Program Mgmt/Tech Spt	FFP	Various	0.000	0.095	1Q04	0.205	1Q05	0.201	1Q06	0.205	1Q07	Cont	Cont	
Subtotal Management			0.000	0.095		0.205		0.201		0.205		Cont	Cont	
Remarks:														
Total Cost			48.496	2.194		2.629		2.711		2.571		Cont	Cont	

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems			C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.401	3.923	7.397	9.379	11.472	13.110	10.484	10.637
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/commercially available items. Much of the RDT&E is conducted in coordination/concert with other services and joint organizations, and in consideration of RDT&E efforts being pursued by the other services. Items approved for procurement will transition into Procurement Marine Corps and Operations and Maintenance Marine Corps procurement lines for Individual Combat Equipment, Medical Equipment, and Shelters. The focus is to provide the state of the art combat equipment (e.g. lightweight helmet, sleeping bags, load bearing systems, etc.), medical equipment (e.g. Authorized Medical Allowance (AMAL)/Authorized Dental Allowance (ADAL), Enroute Care, Mobile Medical Monitors, etc.), and family of shelters (softwall, different frames and fabrics, etc.). The benefit will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the art equipment will ensure Marines are equipped with the best items that technology can offer.								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost	0.912	1.049	0.000	0.000				
RDT&E Articles Qty								
Initial Issue: Exploration of new commercial technologies that can be inserted into current body armor, load bearing equipment, footwear and clothing systems to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost	0	0.000	2.668	4.400				
RDT&E Articles Qty								
Family of Ballistic Protection (Formerly part of Initial Issue): Exploration of new commercial technologies that can be inserted into current body armor, to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost	0	0.000	0.228	0.238				
RDT&E Articles Qty								
Family of Improved Loadbearing Equipment (Formerly part of Initial Issue): This program supports the Marine Corps requirements for a replacement load bearing system and to provide funding to support continual system improvement throughout the life-cycle of the equipment.								

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0	0.000	0.087	0.086
RDT&E Articles Qty				
Family of General Property and Support Equipment (Formerly part of Initial Issue): The purpose of General Property and Combat Support Equipment is to enhance or improve unit operational capabilities and enhance unit morale. In addition, some items such as the individual water purifier, field tarp and poncho will greatly enhance survivability, mobility and provide significantly improved field equipment to Marines.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0	0.000	0.970	1.204
RDT&E Articles Qty				
Family of Mountain Cold Weather Clothing & Equipment (MCWCEP) (Formerly part of Initial Issue): FMCWCE will provide a capability set of clothing and equipment to facilitate MAGTF operations in mountainous and cold weather environments. The intent is to reduce the individual load (weight/volume) of the Ground Combat Element (GCE), particularly dismounted infantry while maintaining or improving system performance. Mobility, survivability and sustainability requirements for the Command Element (CE), Combat Service Support Element (CSSE), and the Air Combat Element (ACE) will also be met. This program will substantially improve current inventory items and add new capabilities such as steep earth and alpine ice equipment for which we train Marines yet have no assets to perform these missions within the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by MCWCEP.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0	0.000	0.400	0.305
RDT&E Articles Qty				
Family of Combat Field Feeding Systems (Formally part of Initial Issue): Improvements on current technology for heating individual rations is being explored to test individual ration heater concepts and equipment. Although some progress has been made in recent years to improve field feeding equipment, most current field messing equipment consists of manpower and maintenance intensive M59 ranges utilizing M2 burners setup within tents. The current Tray Ration Heater System has a large footprint, lacks a quick displacement capability, includes unsafe and hazardous components (specifically the M2 burners), and does not conform to the single fuel concept. Also, this current system is not compatible with tenets of Operational Maneuver from the Sea (OMFTS) and does not facilitate maneuverable warfare operations. Current cookware sanitizing equipment consists of 30 gallon containers used in consonance with immersion water heaters, fueled by gasoline (MOGAS).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.674	0.833	0.936	2.273
RDT&E Articles Qty				
Family of Field Medical Equipment: Development of new Authorized Medical and Dental Allowance Lists (AMALs and ADALs) to insert new technology, to reduce weight and cube size for expeditionary maneuver warfare, and to enhance health services support to the operating forces.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.718	0.533	0.800	0.000
RDT&E Articles Qty				
Family of Field Medical Equipment: Testing of Commerical-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System (based on components of an existing USAF system) to evaluate functionality for patient transportation post resuscitative surgery in forward echelons.				

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems		C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES	
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.600	0.578	0.800	0.800
RDT&E Articles Qty				
Family of Field Medical Equipment: Testing of Commerical-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items to evaluate their functionality for casualty rescue, extraction and transport as required for the Casualty Evacuation (CASEVAC) system.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.476	0.434	0.435	0.000
RDT&E Articles Qty				
Family of Field Medical Equipment: Minimization of the Forward Resuscitative Surgery System to support transportation into one V-22B Osprey.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.021	0.496	0.073	0.073
RDT&E Articles Qty				
Family of Shelters and Shelter Equipment: Command and Control Systems have out grown the current Modular Command Post Shelter in size and performance. Changing operational doctrine, logistic support systems and advances in technology require development of an advanced lightweight rapid deploying tactical shelter with a minimum of 420 sq. ft. Design and engineering to increase capability, reduce weight, cost and cube of soft wall shelters. Explore and test new technologies in coordination with the US. Army for insertion into the shelter.				
(U) Total \$	0.000	3.401	3.923	7.397
				9.379
(U) PROJECT CHANGE SUMMARY				
	FY2004	FY2005	FY2006	FY2007
(U) FY 2005 President's Budget:	3.699	3.959	7.204	7.509
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings				1.938
(U) SBIR/STTR Transfer	-0.038			
(U) Minor Affordability Adjustment	-0.260	-0.036	0.193	-0.068
(U) FY 2006 President's Budget:	3.401	3.923	7.397	9.379
CHANGE SUMMARY EXPLANATION:				
(U) Funding: Change in funding in FY07 represents reprioritizing of efforts within the USMC.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Sys Development

0206623M Marine Corps Ground
Combat/Supporting Arms Systems

C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND
SERVICES

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PMC Line (BLI#652200) Field Med Equip	7.072	11.333	2.459	3.214	3.226	3.307	3.430	3.496	Cont	Cont
(U) PMC Line (BLI#661300) Combat Field Feeding System	0.000	0.000	5.405	5.132	4.088	3.737	3.802	3.653	Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

Family of Ballistic Protection Systems, Mountain Cold Weather, Improved Loadbearing Equipment, General Property and Supt Equipment and Combat Field Feeding Systems (formerly Initial Issue): Items utilize various acquisition strategies. These programs leverage heavily on current developments and technology in commercial industry. As a result, government's R&D phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate or the U.S. Army Natick Research, Development & Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities.

SHELTERS: The Shelter acquisition strategy is to modify non-developmental Items (NDI) to further meet the requirements of the Marine Corps, to support development of multi service items through inter-service agreements and to adopt Commercial-Off-the-Shelf (COTS)/NDI Marine Corps Specific items.

FAMILY OF FIELD MEDICAL EQUIPMENT: These programs leverage heavily on current development and technology in the commercial medical industry. Field Medical acquisition strategy is to modify non-developmental items (NDI) and adopt Commercial-Off-The-Shelf (COTS) items.

(U) E. MAJOR PERFORMERS:

Family of Ballistic Protection Systems, Mountain Cold Weather, Improved Loadbearing Equipment, General Property and Supt Equipment (formerly Initial Issue): U.S. Army Natick Research, Development and Engineering Center, Natick, Mass.

SHELTERS: TBD based on current technologies.

FAMILY OF FIELD MEDICAL EQUIPMENT: TBD based on current technologies.

(U) SCHEDULE PROFILE: Not Applicable.

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Exhibit R-3 Cost Analysis						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Development			0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2503 Initial Issue - Family of Combat Equip Support & Services							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development/Tech Insertion	MIPR	USASSCOM Natick, MA	3.494	0.154	1Q/04	0.167	1Q/05	1.081	1Q/06	1.495	1Q/07	Cont	Cont	
Development/Tech Insertion	FFP	Various (Test Articles)		0.345	2Q/04	0.403	2Q/05	1.548	2Q/06	1.859	2Q/07	Cont	Cont	
Development/Tech Insertion	WR	NMRC,WASH DC		0.771	2Q/04	0.624	2Q/05	0.416	2Q/06	0.908	2Q/07	Cont	Cont	
Development/Tech Insertion	MIPR	Vet Affairs, Wash DC		0.510	2Q/04	0.700	2Q/05	0.657	2Q/06	1.220	2Q/07	Cont	Cont	
													0.000	
													0.000	
Subtotal Product Dev			3.494	1.780		1.894		3.702		5.482		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support	WR	NRMC, WASH DC				0.100	1Q/05	0.100	1Q/06	0.100	1Q/07	Cont	Cont	
Program Support	WR	NHRC, SAN DIEGO,DC				0.225	1Q/05	0.225	1Q/06				0.450	0.450
Subtotal Support			0.000	0.000		0.325		0.325		0.100		0.000	0.750	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Operational Test & Eval	MIPR	USASSCOM Natick, MA	1.187	0.067	2Q/04	0.073	2Q/05	0.263	2Q/06	0.439	2Q/07	Cont	Cont	
Operational Test & Eval	RCP	NRMC,WASH DC	0.000	0.040	2Q/04	0.578	2Q/05	0.800	2Q/06	0.800	2Q/07	Cont	Cont	
Field User Evaluations	WR	FMF	0.767	0.485	2Q/04	0.837	2Q/05	1.894	2Q/06	1.900	2Q/07	0.000	5.883	5.883
Operational Test & Eval	WR	NSWC, INDIAN HD,MD	0.000	0.250	2Q/04								0.250	0.250
Field User Evaluations	RCP	MCSC, Quantico VA	0.000	0.568	2Q/04	0.073	2Q/05						0.641	0.641
Subtotal T&E			1.954	1.410		1.561		2.957		3.139		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Contractor Eng Suppt	FFP/O	MCSC, Quantico VA	0.314	0.151	1Q/04	0.064	1Q/05	0.230	1Q/06	0.384	1Q/07	Cont	Cont	
Travel	DTS*	MCSC, Quantico VA	0.143	0.060		0.079		0.183		0.274		Cont	Cont	
													0.000	
Subtotal Management			0.457	0.211		0.143		0.413		0.658		Cont	Cont	
Remarks:														
*DTS (Defense Travel System) Obligates throughout the execution year														
Total Cost			5.905	3.401		3.923		7.397		9.379		Cont	Cont	

R-1 SHOPPING LIST - Item No. 186

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 29 of 53)

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development		PROGRAM ELEMENT NUMBER AND NAME 26623M Marine Corps Ground Combat/Supt Arms			PROJECT NUMBER AND NAME C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY10	FY11
Project Cost	6.266	2.996	4.145	6.150	2.374	0.489	0.000	0.000
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>HIMARS is a C-130 aircraft transportable, wheeled, indirect fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System Family of Munitions (MFOM). The system includes one launcher, two Resupply Vehicles (w/ Materials Handling Equipment (MHE) Crane) and two Resupply Trailers, and the MFOM. HIMARS will provide the Fleet Marine Force with 24 hour ground-based, responsive General Support/General Support Reinforcing/Reinforcing (GS/GSR/R) indirect fires which accurately engage targets at long range (60+km) with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore. HIMARS is a significant improvement over currently fielded ground fire support systems. During a 24 hour period the system will be expected to conduct multiple moves and multiple fire missions. HIMARS will satisfy the Marine Corps requirement for an indirect fire system that is responsive, maneuverable, and is capable of engaging targets at long range.</p>								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	1.124	0.900	2.957	3.404				
RDT&E Articles Qty								
Primary and Ancillary Hardware Development and Systems Engineering Support, includes Navy, Marine Corps, Army and contractor R&D efforts.								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	1.470	0.250	0.000	0.150				
RDT&E Articles Qty								
Develop Support Equipment, Army program office support, contractor provided logistics support								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	1.593	0.630	0.713	2.030				
RDT&E Articles Qty								
Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items.								
COST (\$ in Millions)	FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	2.079	1.216	0.475	0.566				
RDT&E Articles Qty								
Program Management at Quantico, USMC Liason Office at Army Program, USMC Test Unit at Ft Sill, and contractor support.								
(U) Total \$	6.266	2.996	4.145	6.150				

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development		26623M Marine Corps Ground Combat/Supt Arms		C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)	

PROJECT CHANGE SUMMARY

	FY2004	FY2005	FY2006	FY07
(U) FY 2005 President's Budget:	6.860	3.026	0.016	0.000
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) POM 06 Core Adjustment			4.04	4.022
(U) Reprogrammings	-0.494		-0.049	2.344
(U) SBIR/STTR Transfer	-0.100			
(U) Minor Affordability Adjustment		-0.030	0.138	-0.216
(U) FY 2006 President's Budget:	6.266	2.996	4.145	6.150

CHANGE SUMMARY EXPLANATION:

(U) Funding: Change in funding in FY06/07 represents reprioritizing of efforts within the USMC.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC, (BLI 205001), EIFGSWS (HIMARS)	17.183	16.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.460
(U) PMC, (BLI 304001), HIMARS ROCKETS	0.000	1.320	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC, (BLI 221200), HIMARS	0.000	0.000	176.795	212.972	61.677	95.690	85.272	75.294	Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

USMC HIMARS is procuring the Army rocket launcher, the current / future Multiple Launch Rocket System Family of Munitions (MFOM) and developing an Medium Tactical Vehicle Replacement (MTVR)-based Resupply System (truck(s) with associated trailer(s)). The Marine Corps launcher and ammo requirements closely match U.S. Army requirements. The US Army HIMARS program received increased funding so that it is now an ACAT IC level program. Marine Corps resupply system requirements are unique. Accordingly, the Marine Corps is an integrator and must ensure the required warfighting capability is fielded to the Marine Corps operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items while providing associated evaluation and oversight. Additionally, the Marine Corps program is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps. The Marine Corps strategy is incorporating Evolutionary Acquisition and capability upgrades to both the systems and rocket munitions. These improvements are in-line with the US Army's acquisition strategy.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development	PROGRAM ELEMENT NUMBER AND NAME 26623M Marine Corps Ground Combat/Supt Arms	PROJECT NUMBER AND NAME C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)
<p>(U) E. MAJOR PERFORMERS:</p> <p>FY-04-07 Lockheed Martin Missile, Dallas, TX. Modifications to Launcher, GMLRS Development</p> <p>FY-04-07 Lockheed Martin Missile, Dallas, TX Systems Engineering Support for Development and testing</p> <p>FY-04-Lockheed Martin Missile, Dallas, TX Contractor Logisitics Support, Contract Option</p> <p>FY-04-Oshkosh Trucking Corporation, Oshkosh, WI Upgrade to RSS Production Representative articles and Field Service Support</p>		

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Exhibit R-3 Cost Analysis					DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N /BA-7 Operational Sys Development			0206623M Marine Corps Ground Combat/Supt Arms		C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev	SS/CPAF	Lockheed Martin, Dallas, TX	11.054	0.162	07/04	0.750	04/05	1.313	04/06	0.085	04/07	0.500	13.864	13.864
Primary Hardware Dev	SS/CPAF	Oshkosh Truck, Oshkosh,WI	2.864	0.106	07/04							0.000	2.970	
Ancillary Hardware Dev	TBD	TBD	0.000					0.850	12/05	2.484	12/06	0.000	3.334	
Systems Engineering	WR	NSWC-Carderock,MD	0.090	0.067	10/03							0.000	0.157	0.157
Systems Engineering	WR	NSWC-Dahlgren, VA	0.582	0.462	10/03	0.150	10/04	0.350	10/05	0.350	10/06	0.470	2.364	2.364
Systems Engineering	WR	NSWC-Earle, NJ	0.250	0.192	01/04			0.354	10/05	0.275	10/06	0.000	1.071	1.071
Systems Engineering	FFP	John J. McMullen, Pittsb,PA	0.166	0.015	03/04							0.000	0.181	0.181
Systems Engineering	CPAF	Lockheed Martin, Dallas, TX	0.270	0.050	06/04			0.090	12/05	0.210	12/06	0.056	0.676	0.676
Systems Engineering	WR	NAVAIR, Point Mugu CA	0.000	0.070	10/03							0.000		
Subtotal Product Dev			15.276	1.124		0.900		2.957		3.404		1.026	24.687	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ILS Program Support	MIPR	US Army-MSL,Huntsville, AL	1.090	0.400	10/03	0.150	10/04					0.000	1.640	1.640
Integ Logistics Support	WR	NSWCIHD, Earle NJ	0.000							0.150	12/06	0.000	0.150	0.150
Integ Logistics Support	CPAF	Lockheed Martin, Dallas TX	2.392	0.990	06/04							0.000	3.382	3.382
Integ Logistics Support	WR	Logistics Base-Albany, GA	0.027	0.010	10/03							0.000	0.037	0.037
Integ Logistics Support	FFP	SAIC, McLean VA	0.000	0.048	02/04							0.000	0.048	0.048
Integ Logistics Support	WR	MARFORRES, New Orleans LA	0.000	0.022	10/03	0.100	10/04					0.000	0.122	0.122
Subtotal Support			3.509	1.470		0.250		0.000		0.150		0.000	5.379	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NSWC-Dahlgren, VA	1.116	0.282	10/03			0.425	10/05	1.305	10/06	0.425	3.553	3.553
Dev Test & Eval	WR	Redstone Test Ctr,Huntsville,AL	0.213	0.045	01/04	0.100	12/04	0.120	12/05	0.410	12/06	0.070	0.958	0.958
Dev Test & Eval	WR	Aberdeen Proving Grounds, MD	0.853	0.650	03/04							0.000	1.503	1.503
Dev Test & Eval	WR	NSWC-Carderock, MD	0.015							0.050	10/06	0.000	0.065	0.065
Dev Test & Eval	MIPR	DAC, McAlester, OK	0.000	0.055						0.090	10/06	0.000	0.145	0.145
Dev Test & Eval	MIPR	Redstone Test Ctr,Huntsville,AL	0.000	0.203	08/04							0.200		
Operational Test & Eval	WR	MCOTEA, Quantico, VA	0.316	0.150	04/04	0.530	12/04	0.168	12/05	0.175	12/06	0.150	1.489	1.489
Operational Test & Eval	MIPR	MARFORRES, New Orleans, LA	0.096	0.025	10/03							0.000	0.121	0.121
DT/OT Support	WR	OT Test Conduct, Ft. Sill, OK	0.229	0.183	10/03							0.000	0.412	0.412
Subtotal T&E			2.838	1.593		0.630		0.713		2.030		0.845	8.649	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Mngmnt	WR	MCSC, Quantico, VA	0.994	0.300	10/03	0.242	10/04	0.225	10/05	0.316	10/06	0.442	2.519	2.519
Program Mngmnt	MIPR	US ARMY Huntsville, AL	1.042	0.200	10/03	0.150	10/04					0.000	1.392	1.392
Program Mngmnt	FFP	CEOSS, Quantico VA	2.327	1.579	10/04	0.824	10/04	0.250	10/05	0.250	10/06	0.550	5.780	5.780
Subtotal Management			4.363	2.079		1.216		0.475		0.566		0.992	9.691	
Remarks:														
Total Cost			25.986	6.266		2.996		4.145		6.150		2.863	48.406	

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Exhibit R-4/4a Schedule Profile/Detail													DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT													PROJECT NUMBER AND NAME															
RDT&E, N /BA-7 Operational Sys Dev					0206623M Marine Corps Ground Combat/Supt Arms													C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)															
Fiscal Year		FY04				FY05				FY06				FY07				FY08				FY09				FY10				FY11			
Quarter		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
MS C/LRIP Decision		◆																															
US Army/USMC OT					◆																												
LRIP Delivery				◆		◆					◆																						
FRP										◆																							
FRP System Deliveries													◆								◆												
M30 FRP Munitions Delivers														◆															◆				
Interim Capability									◆																								
IOC																◆																	
FOC																				◆													
USMC GMLRS Unitary DT, Army DT/OT										◆											◆												
GMLRS Unitary FRP																					◆												
Unitary FRP Munitions Deliveries																									◆				◆				
HIMARS P3I										◆																	◆						

Program Funding Summary		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U)	RDT&E,N, 026623M, HIMARS	6.266	2.996	4.145	6.150	2.374	0.489	0.000	0.000	0.000	22.420
(U)	PMC 205001 Expeditionary Indirect Fire Support Weapons System (EIFGSWS)(HIMARS)	17.183	16.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.460
(U)	PMC 304001 HIMARS ROCKETS	0.000	1.320	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont
(U)	PMC 221200 High Mobility Artillery Rocket Sys	0.000	0.000	176.795	212.972	61.677	95.690	85.272	75.294	Cont	Cont

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Exhibit R-4/4a Schedule Profile/Detail					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms			C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)				
HIMARS SCHEDULE DETAIL		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MC C/LRIP Decision		1Q							
US Army/ USMC Operational Testing		3Q----	-1Q						
LRIP Deliveries		3Q----	-----	-----2Q					
Interim Capability			4Q-	-----	-----	1Q			
USMC Full Rate Production (FRP) Decision				1Q					
USMC FRP Deliveries					1Q----	-----	---2Q		
GMLRS (M30) Munitions Deliveries					3Q---	-----	-----	-----	-----
Initial Operational Capability						1Q			
Full Operational Capability							1Q		
GMLRS Unitary Munitions									
USMC DT, US Army DT/OT				1Q-----	-----	-----4Q			
GMLRS Unitary FRP							1Q		
Unitary FRP Deliveries								2Q---	-----
HIMARS Pre-Planned Product Improvements (P3I)									
Carrier Upgrades				2Q---	-----4Q				
Comm Upgrades (Cordless VIS, JTRS)				2Q---	-----	2Q---	2Q---	-----4Q	
Armor Upgrades							2Q---	-----4Q	

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms				C3098 Fire Support Systems			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Project Cost		10.050	12.079	11.645	7.680	7.413	8.679	7.550	7.248
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) This Project develops joint and Marine Corps unique improvements to artillery technology, USMC unique Amphibious Armor Systems (AAS), and international weapons developments. The AN/GVS-5 Laser Range Finder, Family of Artillery Munitions, Fire Support Mods, and the Mortar Ballistic Computer moved to this project from project C1901 within this Program Element.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		0.279	0.275	0.281	0.288				
RDT&E Articles Qty									
Family of Artillery Munitions (FAM): Support a production decision for the Multi Option Fuze Artillery (MOFA), and Portable Inductive Artillery Fuze Setter (PIAFS) to include: Weapons Systems Explosive Safety Review Board testing, program support, and travel. Actively monitor U.S. Army artillery ammunition development programs in order to leverage off of and influence Army developmental efforts.									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		1.044	1.740	1.665	1.710				
RDT&E Articles Qty									
Fire Support Mods: Joint participation in artillery and fire support improvement projects. Specific projects include phase-in/phase-out of M198 Howitzer / LW 155mm Howitzer and development of Global Positioning System-Selective Availability Anti-Spoofing Module (GPS-SAASM) capability and upgrade of Meteorological (MET) processing computer for the Meteorological Measuring System (MMS) and develop Electronic Meteorological Theodolite (EMT) capability.									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		0.168	1.120	0.744	0.359				
RDT&E Articles Qty									
Fire Support Sustainment - Fielded Sys Readiness: Research operational and logistical deficiencies on fielded systems and equipment, such as M198 Howitzers, Position and Azimuth Determining Systems (PADS), and Modular Universal Laser Equipment (MULE) Laser Designators. Develop and field modifications to improve system safety, enhance operational efficiency, and reduce life cycle costs.									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		1.562	1.176	0.713	0.308				
RDT&E Articles Qty									
Mortar Ballistic Computer (MBC): Integration effort of Government-Furnished Equipment (GFE) software with a common hardware suite (CHS) platform. Prepare for and conduct combined Developmental Testing (DT) and Operational Testing (OT) to include Live Fire User Evaluation. Conduct Interim Progress Review (IPR). Prepare for Milestone C decision. Requirements review to determine evolution to future block upgrades.									

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EXHIBIT R-2a, RDT&E Project Justification				DATE:	
				February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms		C3098 Fire Support Systems	
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		1.1	0.000	0.000	0.000
RDT&E Articles Qty					
AN/GVS-5 Replacement - Azimuth Eye-safe Rangefinding Observation Set (AEROS): Engineering and programmatic support as well as performing an Operational Test and Evaluation (OT&E) on the AEROS system. The funding for the OT&E effort encompasses the test itself and all associated personnel and TAD costs to support the test. Additionally, integration of a P3I Enhanced Target Acquisition and Location System (ETALS) will begin.					
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.357	0.181	0.000
RDT&E Articles Qty					
AN/GVS-5 Replacement (AEROS): Engineering and programmatic support as well as the integration of a pre-planned product improvement (P3I) to the AEROS program. The focus of the P3I effort will be the integration of ETALS in the AEROS. ETALS is a Science and Technology (S&T) effort that is being funded through the Office of Naval Research (ONR). The research and development effort is being performed by the Naval Surface Warfare Center (NSWC), Dahlgren, Virginia.					
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		3.292	0.000	0.000	0.000
RDT&E Articles Qty					
Expeditionary Fire Support System (EFSS): Conduct Analysis of Alternatives (AOA) and related concept studies necessary to identify potential EFSS solutions that meet the capability of the Mission Need Statement (MNS). Evaluate the continuum of potential solutions that are identified. Program is planned for a three phase acquisition based on current and near term technologies.					
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	7.136	7.050	4.015
RDT&E Articles Qty					
Expeditionary Fire Support System (EFSS): Program proposes a Milestone B review in September 2004 and the award of a contract with cost plus award fee and firm fixed price line items. EFSS will enter the System Development and Demonstration phase with a single vendor. A Milestone C decision is planned for 2nd quarter 2005. An option for full rate production may be exercised at this time.					
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.000	1.000
RDT&E Articles Qty					
Meteorological Measuring Sets (MMS Profiler) - The RDT&E dollars listed above will be used to develop, and test a network centric meteorological capability that removes the balloon from the battlefield, enhances artillery accuracy, expands the coverage of meteorological information, and supports future firing systems. This is a collaborative effort being conducted with the Meteorological/Oceanographic departments of the other services with the intent of acquiring cost-effective, interoperable, network-centric information infrastructure that supports the operational requirements of the war fighter.					
COST (\$ in Millions)		FY 2004	FY 2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost		2.605	0.275	0.011	0.000
RDT&E Articles Qty					
Improved Position Azimuth Determination System (IPADS): Program support, contractor design effort, and the procurement of systems for developmental/operational testing and system integration. Development effort supports the Milestone C decision.					
(U) Total \$		10.050	12.079	11.645	7.680

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev			PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supt Arms			PROJECT NUMBER AND NAME C3098 Fire Support Systems					
(U) PROJECT CHANGE SUMMARY:			<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>					
(U) FY 2005 President's Budget:			11.099	12.201	10.199	14.008					
(U) Adjustments from the President's Budget:											
(U) Congressional Program Reductions											
(U) Congressional Rescissions											
(U) Congressional Increases											
(U) POM 06 Core Adjustment											
(U) Reprogrammings											
(U) SBIR/STTR Transfer											
(U) Minor Affordability Adjustment											
(U) FY 2006 President's Budget:			10.050	12.079	11.645	7.680					
CHANGE SUMMARY EXPLANATION:											
(U) Funding: See above.											
(U) Schedule: Not Applicable.											
(U) Technical: Not Applicable.											
(U) C. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>			<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 To Compl</u>	<u>Total Cost</u>
PMC BLI# 473300 Meteorological Measuring Sets (FSS)			0.000	0.000	3.346	1.460	0.000	0.000	0.000	0.000	4.806
PMC BLI# 473300 Fire Supp Sys (IPADS)			0.000	6.621	5.124	0.000	0.000	0.000	0.000	0.000	11.745
PMC BLI# 473300 FSS (Mortar Ballistic Computer)			0.000	3.554	1.898	0.000	0.000	0.000	0.000	0.000	5.452
PMC BLI# 473300 Fire Supp Sustainment			0.000	0.000	2.601	4.277	4.415	4.542	4.648	4.769	Cont
PMC BLI# 473300 AEROS (AN/GVS-5)			0.000	0.000	20.080	25.868	0.368	0.000	0.000	0.000	46.316
PMC BLI# 473300 PIAFS			0.000	0.000	0.411	0.201	0.000	0.000	0.000	0.000	0.612
PMC BLI# 206300 Mod Kits AFS (PIAFS)			0.000	2.394	0.000	0.000	0.000	0.000	0.000	0.000	2.394
PMC BLI# 206300 Mod Kits AFS (Fire Supp Sustainment)			1.599	2.446	0.000	0.000	0.000	0.000	0.000	0.000	4.045
PMC BLI# 206400 Expeditionary Fire Support Sys			0.000	0.000	5.965	7.337	5.851	9.755	10.150	0.000	39.058
PMC BLI# 493000 AN/GVS-5 (FSS)			0.000	4.941	0.000	0.000	0.000	0.000	0.000	0.000	4.941
PMC BLI# 646800 AN/GVS-5 (FSS)			0.000	0.026	0.033	0.034	0.018	0.000	0.000	0.000	0.111
PMC BLI# 646800 IPADS (FSS)			0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.060
PMC BLI# 700000 INITIAL SPARES (FSS)			0.000	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.143
PMC BLI# 700000 PRIME VENDOR (FSS)			0.000	0.000	1.252	0.780	0.000	0.000	0.000	0.000	2.032
PMC BLI# 700000 PRIME VENDOR (EFSS)			0.000	0.000	0.200	0.432	0.864	0.000	0.000	0.000	1.496
(U) Related RDT&E:											
(U) D. ACQUISITION STRATEGY: These programs range from off-the-shelf modifications to developmental items. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 while leveraging emerging technologies to mature the technology by FY09 and beyond.											
(U) E. MAJOR PERFORMERS:											

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Exhibit R-3 Cost Analysis								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT		SEE BELOW												
AN/GVS-5 Replacement	RCP	MKI Woodbridge, VA	0.000	0.361	1Q04							0.000	0.361	
EFSS	RCP	TBD	0.000	0.557		1.920	2Q05	1.700	1Q06	2.000	1Q07	Cont	Cont	
EFSS	VAR	TBD	0.000			0.781	2Q05	0.700	2Q06	0.500	2Q07	Cont	Cont	
Fire Spt Mods	MIPR	CECOM, Ft Monmouth NJ	0.403									0.000	0.403	
Fire Spt Mods	RCP	Smith Indus, Gd Rapids, MI		0.400	1Q04	0.802	1Q05	0.800	1Q06	0.700	TBD	Cont	Cont	
Fire Spt Mods - Fielded Sys Readiness	VAR	TBD	0.000	0.000		0.357	1Q05	0.400	TBD	0.359	TBD	Cont	Cont	
IPADS	VAR	VARIOUS		1.409	1Q04							0.000	1.409	
MBC	VAR	VARIOUS	0.000	0.315	2Q04	0.200		0.413	TBD			0.000	0.928	
MMS Profiler	MIPR	TBD	0.000					0.800	TBD	0.800	TBD		1.600	
													0.000	
Subtotal Product Dev			0.403	3.042		4.060		4.813		4.359		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PROGRAM SUPPORT		SEE BELOW												
AN/GVS-5 Replacement	WR	MCSC, Quantico, VA	0.000	0.244	2Q04							0.000	0.244	
AN/GVS-5 Replacement	RCP	CEOSS	0.000	0.295	1Q04	0.357	1Q05	0.181	1Q06			0.000	0.833	
AN/GVS-5 Replacement	MIPR	Marine Det, Ft Sill, OK		0.015	1Q04							0.000	0.015	
EFSS	RCP	CTQ, Quantico, Va	0.000	0.581	1Q04	1.342	1Q05	0.708	1Q06	0.343	1Q07	Cont	Cont	
EFSS	WR	NAWCD, Pax River, Md		0.412	1Q04	0.200	1Q05	0.200	1Q06	0.100	1Q07	Cont	Cont	
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA		0.057	1Q04	0.058	1Q05	0.281	1Q06	0.288	1Q07	Cont	Cont	
Fire Spt Mods	WR/RCP	BAEST, Stafford, VA	1.046	0.300	1Q04	0.382	1Q05	0.450	1Q06	0.500	1Q07	Cont	Cont	
Fire Spt Mods - Fielded Sys Readiness	VAR	EG&G		0.118	1Q04	0.253	TBD	0.344	1Q06			Cont	Cont	
IPADS	VAR	VARIOUS		0.250	2Q04			0.011	TBD			0.000	0.261	
MBC	VAR	VARIOUS	0.000	0.500	1Q04	0.689	TBD	0.300	TBD	0.308	1Q07	0.000	1.797	
MMS Profiler	RCP	CEOSS	0.000					0.200	1Q06	0.200	1Q07	Cont	Cont	
													0.000	
Subtotal Support			1.046	2.772		3.281		2.675		1.739		Cont	Cont	
Remarks:														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 39 of 53)

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Exhibit R-3 Cost Analysis										DATE:				
										February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E		SEE BELOW												
AN/GVS-5 Replacement	WR	MCOTEA, Quantico, VA	0.000	0.185	2Q04							0.000	0.185	
EFSS	WR	NSWC, Indian Head, Md		0.180	2Q04	0.951	2Q05	1.592	2Q06	0.200	2Q07	Cont	Cont	
Fam Artillery Munitions	WR/RCP	NSWC, Crane, IN		0.222	2Q04	0.217	2Q05					Cont	Cont	
Fire Spt Mods	WR	MCOTEA, Quantico, VA	0.025			0.200	2Q05	0.200	1Q06	0.250	1Q07	Cont	Cont	
Fire Spt Mods - Fielded Sys Readiness	VAR	PICATINNY, NJ		0.000	2Q04	0.300	TBD					Cont	Cont	
IPADS	WR	VARIOUS		0.151	2Q04							0.000	0.151	
MBC	WR	VARIOUS	0.000	0.497	2Q04	0.287	TBD					0.000	0.784	
MMS Profiler												Cont	Cont	
													0.000	
Subtotal T&E			0.025	1.235		1.955		1.792		0.450		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MANAGEMENT		SEE BELOW												
EFSS	MPR	MCPD, Fallbrook, CA		0.536	2Q04	0.600	2Q05	0.700	2Q06	0.300	2Q07	Cont	Cont	
EFSS	WR	MCSC, Quantico, VA		1.026	1Q04	1.342	1Q05	1.450	1Q06	0.572	1Q07	Cont	Cont	
Fire Spt Mods	WR	MCSC, Quantico, VA	0.582	0.344	2Q04	0.356	2Q05	0.215	2Q06	0.260	2Q07	Cont	Cont	
Fire Spt Mods - Fielded Sys Readiness	RCP	BAEST, Stafford, VA		0.050	1Q04	0.210	1Q05					Cont	Cont	
IPADS	WR	MCSC, Quantico, VA		0.795	2Q04	0.275	2Q05					0.000	1.070	
MBC	WR	MCSC, Quantico VA	0.000	0.250	1Q04							0.000	0.250	
MMS Profiler												Cont	Cont	
													0.000	
Subtotal Management			0.582	3.001		2.783		2.365		1.132		Cont	Cont	
Remarks:														
Total Cost			2.056	10.050		12.079		11.645		7.680		Cont	Cont	

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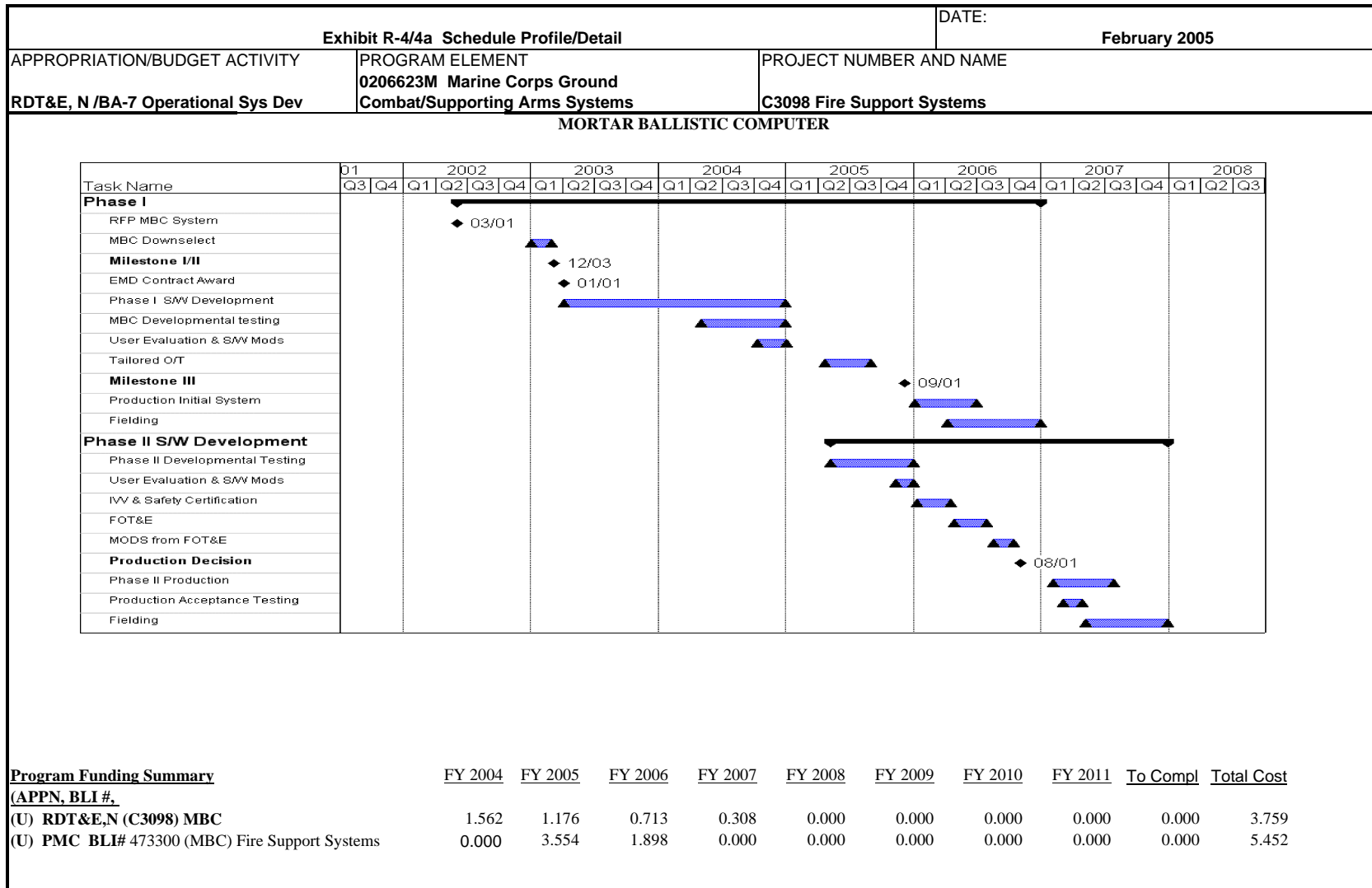
Exhibit R-4/4a Schedule Profile/Detail														DATE:														
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT						PROJECT NUMBER AND NAME																		
RDT&E, N /BA-7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems						C3098 Fire Support Systems																		
AEROS PROGRAM AN/GVS-5 Replacement																												
ID	Task Name	2001			2002			2003			2004			2005			2006			2007			2008					
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	CG Memo to Field MLE-50 UNS Qty																											
2	CG Memo to Procure TLHS Qty																											
3	ACAT IV (T) Design MDA Delegation																											
4	Milestone B Decision																											
5	Milestone C/Fielding Decision																											
6	TLDHS Blk II IOC																											
7	AEROS IOC																											
8	AEROS FOC																											
9	System Demonstration Phase																											
10	RFI Posted																											
11	RFP Posted																											
12	SSEB Approval																											
13	Contract Award																											
14	Design Reviews																											
18	Developmental Testing																											
33	TEMP																											
34	IOT&E																											
37	Programmatic Documentation																											

Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N (C3098) AN/GVS-5	1.100	0.357	0.181	0.000	0.000	0.000			0.000	1.638
(U) PMC, BLI# 493000 AN/GVS-5	0.000	4.941	0.000	0.000	0.000	0.000			0.000	4.941
(U) PMC, BLI# 473300 (AN/GVS-5) CLRF	0.000	0.000	20.080	25.868	0.368	0.000			0.000	46.316
(U) PMC, BLI# 646800 1st Destination Transport.	0.000	0.026	0.033	0.034	0.018	0.000			0.000	0.111
(U) PMC Spares, BLI# 700000 AEROS (GVS-5 Re)	0.000	1.554	0.156	0.160	0.163	0.167	0.170	0.174	0.000	2.544

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Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems			PROJECT NUMBER AND NAME C3098 Fire Support Systems					
AEROS SCHEDULE DETAIL		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
CG Memo to Fielding MLE-50 UNS		Q3								
CG Memo to Procure TLDHS AEROS Qty		Q1								
Program ACAT IV (T) Designation			Q1							
Milestone B			Q2							
Issue Draft Request for Proposal (RFP)		Q2								
Pre-Solicitation Conference		Q2								
Issue Final RFP		Q2								
Source Selection, Including User Evaluation		Q3								
Award Firm Fixed Price Contract with Production Options		Q3								
Developmental Testing		Q4 through	Q3							
Operational Testing (OT)			Q2							
Milestone C / Fielding Decision			Q4							
Exercise Production Option			Q4							
Production			Q4							
Initial Operational Capability (IOC)				Q4						
Full Operational Capability (FOC)						Q4				

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Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems				
MBC SCHEDULE DETAIL		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
Phase I									
Ballistic									
Computer									
Select									
I/II									
Contract									
Software									
Developme		2Q							
Evaluation		3Q							
Operational		3Q							
Milestone III			1Q						
Initial			1Q						
Fielding			3Q						
Phase II -			1Q						
Developme			1Q						
Evaluation			4Q						
Certification				1Q					
FOT&E				2Q					
FOT&E				3Q					
Decision				4Q					
Production					1Q				
Acceptance					1Q				
Fielding					2Q				

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Exhibit R-4/4a Schedule Profile/Detail														DATE:							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT								PROJECT NUMBER AND NAME									
RDT&E, N /BA-7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems								C3098 Fire Support Systems									
IMPROVED POSITIONING AZIMUTH DETERMINING SYSTEM																					
ID	Task Name	2003			2004				2005				2006				2007				
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
1	Prepare Contract Documentation																				
2	RFP Release																				
3	Source Selection																				
4	Exercise EMD Contract Option																				
5	Developmental Testing																				
6	Fleet Evaluation																				
7	Milestone C																				
8	Exercise Contract Production Option																				
9	Production																				
10	IOC (I MEF)																				

Program Funding Summary		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(APPN, BLI #, NOMEN)											
(U) RDT&E,N (C3098) IPADS		2.605	0.275	0.011	0.000	0.000	0.000			0.000	2.891
(U) PMC BLI# 473300 (IPADS) Fire Support Systems		0.000	6.621	5.124	0.000	0.000	0.000			0.000	11.745
(U) PMC Spares BLI# 700000 IPADS		0.000	0.143	0.000	0.000	0.000	0.000			0.000	0.143
(U) PMC 1st Des. Trans. BLI# 646800		0.000	0.000	0.060	0.000	0.000	0.000			0.000	0.060

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Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems				
IPADS SCHEDULE DETAIL		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	Prepare Contract Documentation								
	RFP Release								
	Source Selection								
	Exercise EMD Contract Option								
	Developmental Testing/OT	1Q							
	Fleet Evaluation	4Q							
	Milestone C		1Q						
	Exercise Contract Production Option								
	Production		1Q						
	Initial Operational Capability (I MEF)		3Q						

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Exhibit R-4/4a Schedule Profile/Detail		DATE:
February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C3098 Fire Support Systems

Expeditionary Fire Support System (EFSS)

	FY															
	2003				2004				2005				2006			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Analysis of Alternatives (AoA)																
Mile Stone (MS) A																
Request for Proposal Preparation																
Capability Development Document (CDD)																
Request for Proposal																
Source Selection																
MS B / Contract Award																
System Development / Demonstration																
Capability Production Document (CPD)																
MS C																
IOC																
FOC - 2010																

Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(APPN, BLI #, NOMEN)										
(U) RDT&E,N (C3098) EFSS	3.292	7.136	7.050	4.015	4.002	5.256	5.075	4.730	Cont	Cont
(U) PMC BLI# 206400 EFSS	0.000	0.000	5.965	7.337	5.851	9.755	10.150	0.000	0.000	39.058
(U) PMC BLI# 700000 Initial Spares	0.000	0.000	0.200	0.432	0.879	0.000	0.000	0.000	0.000	1.511
(U) PMC BLI# 442900 Gen. Purp. Test Equi	1.597	4.486	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.083
(U) PMC BLI# 418100 Gen. Purp. Test Equi	0.000	0.000	3.847	3.736	3.531	2.525	3.195	3.254	0.000	20.088
(U) PMC BLI# 442900 Tools, Sets and Kits	1.723	1.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.804
(U) PMC BLI# 418100 Tools, Sets and Kits	0.000	0.000	1.026	0.975	1.107	1.002	1.252	1.279	0.000	6.641

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C4002 Family of Raid and Reconnaissance Equipment				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY10	FY11
Project Cost		3.539	3.401	1.783	2.181	1.169	0.615	0.633	0.573
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Family of Raid and Reconnaissance Equipment program supports the research, development, and procurement actions for multiple airborne/parachuting and specialized reconnaissance related programs. This line focuses on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This will include improving airborne capability equipment and items for direct action missions that use this specialized raid equipment.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		1.144	0.355	0.865	0.481				
RDT&E Articles Qty									
<p>Family of Raids and Reconnaissance Equipment: Integrate logistics to standardize and improve existing close quarters battle and direct action combat equipment and all Marine Corps parachute programs. On-going support to existing items that meet mission requirements for close quarter battle and parachute operations. Development of airborne systems that will allow military parachutists to carry combat equipment in various configurations and a means of supplying/re-supplying combat essentials to Marine units. Development on High Altitude High Opening (HAHO) navigation board, improved jumpers helmet, oxygen (O2) console system integrated with V-22 Osprey, and High Altitude Low Opening (HALO)/HAHO jumpers kit.</p>									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		0.513	0.246	0.195	0.189				
RDT&E Articles Qty									
<p>Family of Small Craft: Conduct engineering analysis and exploration of enhancements for modifications of the Family of Small Craft programs. The Small Unit Riverine Craft (SURC), Raid Open Water Safety Craft (ROWSC), Combat Rubber Reconnaissance Craft (CRRC), Non-Gasoline Burning Outboard Engines (NBOE), and other small craft items will be supported in the future as new craft and engines are fielded.</p>									
COST (\$ in Millions)		FY 2004	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost		1.882	2.800	0.723	1.511				
RDT&E Articles Qty									
<p>Underwater Reconnaissance Capability (URC): Concept exploration and development of prototypes for Divers Propulsion Device (DPD) and for the Tactical Hydrographic Survey Equipment (THSE) in support of underwater reconnaissance operations.</p>									
(U) Total \$		3.539	3.401	1.783	2.181				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C4002 Family of Raid and Reconnaissance Equipment				

(U) PROJECT CHANGE SUMMARY:	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
(U) FY 2005 President's Budget:	2.545	3.440	1.225	0.552	
(U) Adjustments from the President's Budget:					
(U) Congressional Program Reductions					
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings	1.033				
(U) Small Business Innovation Research Transfer	-0.039				
(U) Minor Affordability Adjustment		-0.039	0.558	-0.077	
(U) POM 06 Adjustments				1.706	
(U) FY 2006 President's Budget:	3.539	3.401	1.783	2.181	
CHANGE SUMMARY EXPLANATION:					
(U) Funding: Not Applicable.					
(U) Schedule: Not Applicable.					
(U) Technical: Not Applicable.					

(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI #643400 Amph Raid Equipment	9.277	15.710	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.987
PMC BLI #651800 Amph Support Equipment	0.000	0.000	16.105	13.843	27.988	21.969	7.193	8.166	Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:
The acquisition strategy consists of market surveys to identify off-the-shelf/non-developmental item baseline competitors. This will be followed by a release of desired capabilities/specifications and establishment of the trade space parameters. Project dependent, expect to down-select to best value. Follow-on testing/evaluations as required to be conducted.

(U) E. MAJOR PERFORMERS:

Oct 03, Oct 04, Oct 05	Panama City, FL	Coastal Systems Station (CSS), system engineering in support of underwater reconnaissance
Nov 03, Nov 04, Nov 05	Natick, MA	Natick Labs, system engineering
Dec 03	Quantico, VA	Hardware Development

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Exhibit R-3 Cost Analysis										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C4002 Family of Raid and Reconnaissance Equipment								
RDT&E, N /BA-7 Operational Sys Dev														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware development	RCP	MCSC, Quantico, VA		1.193	12/03					0.287	12/06	Cont	Cont	
Systems Engineering	WR	CSS, Panama City, FL		1.930	10/03	2.370	10/04	1.258	10/05	1.100	10/06	Cont	Cont	
Systems Engineering	WR	Natick Labs, Natick, MA		0.107	11/03	0.419	11/04	0.140	11/05	0.295	11/06	Cont	Cont	
Subtotal Product Development			0.000	3.230		2.789		1.398		1.682		Cont	Cont	
Remarks: Funding for this program in prior years is provided under Project C1901 within this PE.														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	RCP	BAE Inc, Stafford, VA		0.190	10/03	0.305	10/04	0.075	10/05	0.250	10/06	Cont	Cont	
Subtotal Support			0.000	0.190		0.305		0.075		0.250		Cont	Cont	
Remarks: Funding for this program in prior years is provided under Project C1901 within this PE.														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Operational Testing/Eval	RCP	MCOTEA, Quantico, VA		0.040	04/04	0.250	11/04					0.000	0.290	
Subtotal T&E			0.000	0.040		0.250		0.000		0.000		0.000	0.290	
Remarks: Funding for this program in prior years is provided under Project C1901 within this PE.														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Management	RCP	MCSC, Quantico, VA		0.079	12/03	0.057	12/04	0.310	12/05	0.249	12/06	Cont	Cont	
Subtotal Management				0.079		0.057		0.310		0.249		Cont	Cont	
Remarks: Funding for this program in prior years is provided under Project C1901 within this PE.														
Total Cost			0.000	3.539		3.401		1.783		2.181		Cont	Cont	

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Exhibit R-4/4a Schedule Profile/Detail											DATE:																							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME																												
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C4002 Family of Raid and Reconnaissance Equipment																												
ID	Task Name	Duration	Start	Finish																														
					2003				2004				2005				2006				2007				2008				2009				2010	
					3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2		
1	Underwater Reconnaissance Capability	1827 days	Mon 7/1/02	Tue 6/30/09																														
2	Program Initiation	0 days	Mon 7/1/02	Mon 7/1/02	■ 7/1																													
3																																		
4	Diver Propulsion Device	1827 days	Mon 7/1/02	Tue 6/30/09																														
5	Pre Milestone B	260 days	Mon 7/1/02	Fri 6/27/03																														
6	Milestone B	0 days	Tue 7/1/03	Tue 7/1/03	■ 7/1																													
7	R&D	410 days	Mon 7/1/02	Fri 1/23/04																														
8	Milestone C Decision	0 days	Fri 7/23/04	Fri 7/23/04	■ 7/23																													
9	PMC	636 days	Fri 10/1/04	Fri 3/9/07																														
10	Production of 62 units	370 days	Tue 2/1/05	Mon 7/3/06																														
11	Production of 62 units	273 days	Wed 2/1/06	Fri 2/16/07																														
12																																		
13	Tactical Hydrographic Survey Equipment	1305 days	Mon 7/1/02	Fri 6/29/07																														
14	Pre Milestone B	260 days	Tue 7/2/02	Mon 6/30/03																														
15	Milestone B	0 days	Tue 7/1/03	Tue 7/1/03	■ 7/1																													
16	R&D	480 days	Thu 8/29/02	Wed 6/30/04																														
17	Dev elopmental/Operational Testing	456 days	Fri 8/1/03	Fri 4/29/05																														
18	Milestone C Decision	0 days	Mon 8/1/05	Mon 8/1/05	■ 8/1																													
19	Production	477 days	Mon 1/2/06	Tue 10/30/07																														

Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(APPN, BLI #, NOMEN)										
(U) RDT&E,N C4002 URC	1.882	2.800	0.723	1.511	0.535	0.060	0.000	0.000	0.000	7.511
(U) PMC, BLI# 643400 URC	0.000	6.464	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.464
(U) PMC, BLI# 651800 URC	0.000	0.000	7.692	6.340	7.183	4.504	0.000	0.000	0.000	25.719

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT (PE) NAME AND NO. 0206624M Marine Corps Combat Services Support							
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Total PE Cost	24.663	16.109	10.476	13.440	13.031	3.982	2.654	2.725	
C0076 Medium Tactical Vehicle Replacement (MTVR)	0.101	2.438	0.794	0.000	0.000	0.000	0.000	0.000	
*C0201 Logistical Vehicle System Replacement (LVSR)	10.846	9.210	1.468	5.115	1.109	0.915	0.000	0.000	
C2316 Combat Service Support Engineering Equipment	10.907	1.964	3.428	0.518	0.529	0.536	0.548	0.559	
C2509 Motor Transport Modernization	0.530	0.440	0.454	0.558	0.578	0.591	0.604	0.617	
C2929 Testing Measuring Diagnostic Equip (TMDE) & SE	2.279	1.066	4.332	7.249	10.815	1.940	1.502	1.549	
C9645 Battlefield Management System	0.000	0.991	0.000	0.000	0.000	0.000	0.000	0.000	
Quantity of RDT&E Articles									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation requirements. It will also determine the reconfiguration of the current Twin Agent Unit firefighting apparatus and provide a portable, highly mobile general-purpose automatic tester designed for use by technicians in the garrison and at the forward edge of the battlefield. The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the heavy, medium and light fleet vehicles. Alternative Power Sources for Communications Equipment (APSCE) is a suite of devices that provides the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators. The Marine Corps Family of Automatic Test Systems (ATS), formerly TETS, provides automatic testing capability for use by technicians both in garrison and forward edge of Battlefield. *\$4.488M of FY05 funds will forward finance FY06.									

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT (PE) NAME AND NO. 0206624M Marine Corps Combat Services Support		
B. PROGRAM CHANGE SUMMARY				
	FY2004	FY2005	FY2006	FY2007
(U) FY 2005 President's Budget:	20.493	10.731	9.380	6.636
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases		1		
(U) POM 06 Core Adjustment			2.804	6.028
(U) Reprogrammings	4.404	4.488	2.624	0.855
(U) SBIR/STTR Transfer	-0.234			
(U) Minor Affordability Adjustment		-0.11	-4.332	-0.079
(U) FY 2006 President's Budget:	24.663	16.109	10.476	13.440
CHANGE SUMMARY EXPLANATION:				
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206624M Marine Corps Combat Services Support			C0201 Logistical Vehicle System Replacement (LVSr)				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		10.846	9.210	1.468	5.115	1.109	0.915	0.000	0.000
RDT&E Articles Qty		6	2	1					
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Logistical Vehicle System Replacement (LVSr) program will replace the current Logistical Vehicle System (LVS) fleet. This vehicle will increase mobility, maintainability, and reliability for the heavy fleet, while increasing off-road payload. Three LVSr variants will replace the current five LVS variants. The cargo variant will be fielded prior to the LVSr 5th Wheel and Wrecker variants which will be options on the LVSr cargo variant production contract. The Flatrack Refueling Capability (FRC) program will replace the M970 Semi-Trailer refueling in both the Force Service Support Group (FSSG) and the Marine Air Wings (MAWs) for ground refueling missions.</p> <p>(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:</p>									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.000	3.667	0.000	3.667				
RDT&E Articles Qty									
LVSr: Developmental Test and Evaluation.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		0.050	0.055	0.046	0.561				
RDT&E Articles Qty									
LVSr: Program Management and Support / Contract Support.									
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007				
Accomplishment/Effort Subtotal Cost		10.642	4.488	0.000	0.000				
RDT&E Articles Qty		6	2						
LVSr: Procure Prototypes. (FY06 RDT&E Articles Qty's are 5th Wheel and Wrecker Variants)									

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine Corps Combat Services Support	C0201 Logistical Vehicle System Replacement (LVSr)		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.154	1.000	0.000	0.000
RDT&E Articles Qty				
LVSr: Engineering Support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.022	0.438
RDT&E Articles Qty				
FRC: Provide Program Management and support.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.400	0.210
RDT&E Articles Qty				
FRC: Prototype Development.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.239
RDT&E Articles Qty				
FRC: Developmental Test and Evaluation				
(U) Total \$	10.846	9.210	1.468	5.115

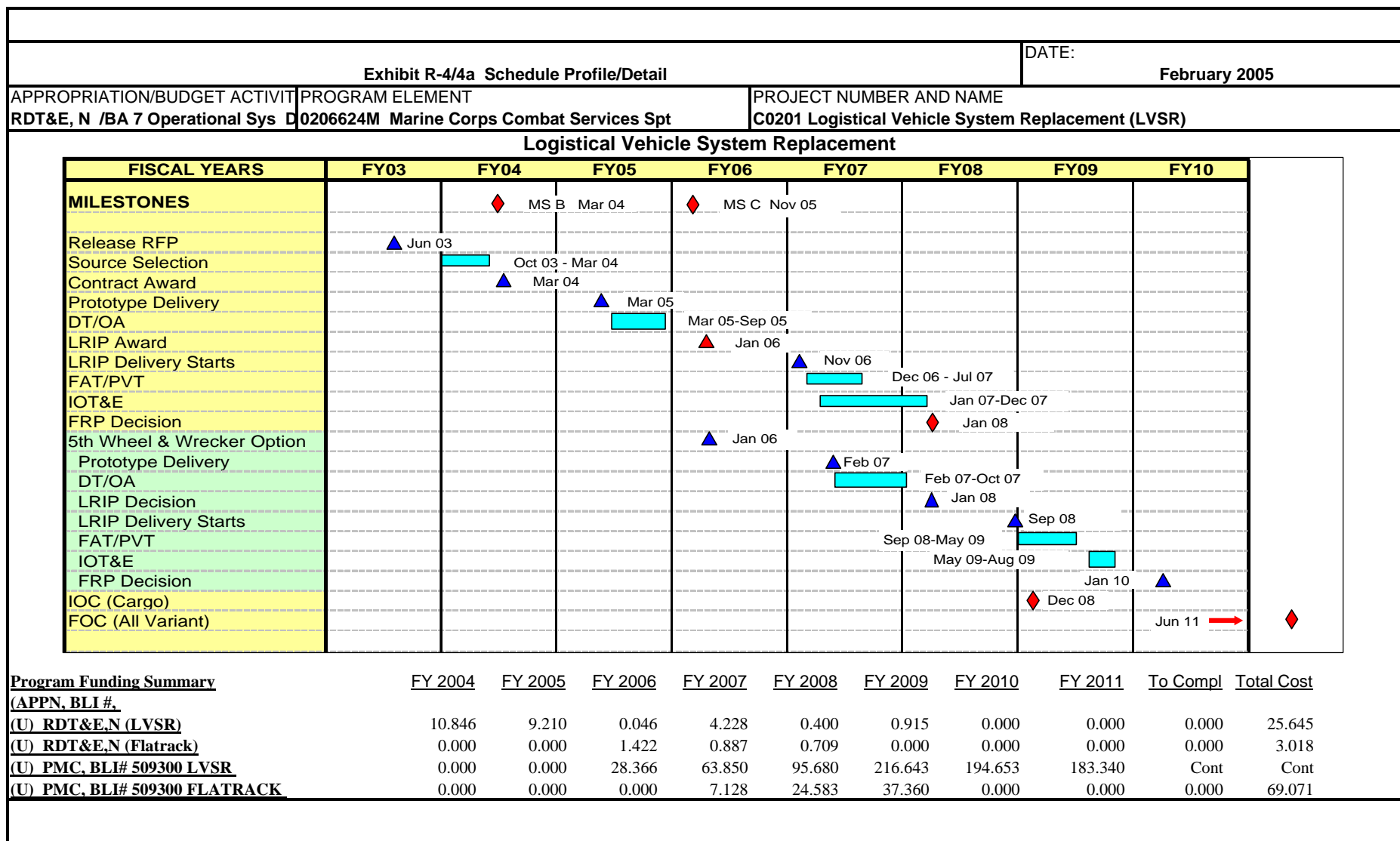
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206624M Marine Corps Combat Services Support				C0201 Logistical Vehicle System Replacement (LVSR)				
(U) Project Change Summary		FY2004	FY2005	FY2006	FY2007					
(U) FY2005 President's Budget		8.872	4.767	6.201	4.415					
(U) Adjustments from the President's Budget:										
(U) Congressional/OSD Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings		1.991	4.488	-0.377	0.854					
(U) SBIR/STTR Transfer		-0.017								
(U) Minor Affordability Adjustment			-0.045	-4.356	-0.154					
(U) FY 2006 President's Budget:		10.846	9.210	1.468	5.115					
CHANGE SUMMARY EXPLANATION:										
(U) Funding: Change in FY04 funding id due to SBIR support.										
Change in funding in FY05-FY07 represent reprioritizing of efforts within the USMC.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	FY2010	FY2011	To Compl	Total Cost
(U) PMC Line (BLI# 509300) FlatRack	0.000	0.000	0.000	7.128	24.583	37.360	0.000	0.000	0.000	69.071
(U) PMC Line (BLI# 509300) LVSR	0.000	0.000	28.366	63.850	95.680	216.643	194.653	183.340	Cont	Cont
(U) Related RDT&E:										
(U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems										
(U) PE 0603640M Marine Corps Advanced Technology Demonstration										
(U) PE 0604804A Logistics and Engineering Equip/Engr Development										
(U) PE 0206313M Marine Corps Communications										
Development and Demonstration (SD&D) phase up to two contracts will be awarded to procure prototypes for developmental testing. The winner of the SD&D phase will be awarded a production contract to produce Low Rate Initial Production (LRIP) vehicles for operational testing. The other two LVSR variants, the 5th Wheel and Wrecker variants will be designed, built and tested under the LVSR cargo production contract.										
(U) D. ACQUISITION STRATEGY: The Flatrack Refueling Capability (FRC) program will consist of two separate phases. During the first phase, the System Development and Demonstration (SD&D) phase one contract will be awarded to procure prototypes for developmental testing. The winner of the SD&D phase will be awarded a production contract to produce LRIP vehicles for operational testing.										
(U) E. MAJOR PERFORMERS:										
Mar '04	American Truck Corp	3 Vehicle Prototypes								
Mar '04	Oshgosh Truck Corp	3 Vehicle Prototypes								

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Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206624M Marine Corps Combat Services Spt				C0201 Logistical Vehicle System Replacement (LVSR)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Source Selection	RCP	MCSC Quantico, VA	0.240									0.000	0.240	0.240
LVSR Prototypes	RCP	ATC, McLean, VA	0.000	5.300	03/04	2.100	09/05	0.000	0/00	0.000	11/06	Cont	Cont	
LVSR Prototypes	RCP	Oshkosh, Oshkosh, WI	0.000	5.342	03/04	2.388	09/05	0.000	00/00				7.730	8.385
FRC Prototypes	RCP	Oshkosh, Oshkosh, WI	0.000	0.000	00/00			1.400	11/05	0.210	11/06	0.000	1.610	1.610
Subtotal Product Dev			0.240	10.642		4.488		1.400		0.210		0.000	16.980	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Modeling & Simulation	RCP	NSWC, Carderock, MD	0.205									0.000	0.205	0.205
FRC Developmental T&E	TBD	TBD								0.239	12/06	0.000	0.239	0.239
Subtotal Support			0.205	0.000		0.000		0.000		0.239		0.000	0.444	0.444
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
LVSR Operational T&E	TBD	TBD	0.000			3.667	03/05			3.667	12/06	Cont	Cont	
Subtotal T&E			0.000	0.000		3.667		0.000		3.667		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 0.000 Date	Cost to Complete	Total Cost	Target Value of Contract
Engineer & Tech Support	RCP	MCSC Quantico, VA	0.667	0.154	01/04							0.000	0.821	0.771
Subtotal Support			0.667	0.154		0.000		0.000		0.000		0.000	0.821	0.771
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
LVSR Contractor Suppt	RCP	Sverdrup, Dumfries, VA	3.579			0.500	10/04			0.500	10/06	Cont	Cont	
LVSR Prgrm Mgmnt Spt	WR	MCSC Quantico, VA	0.080	0.050	10/03	0.555	10/04	0.046	10/05	0.061	10/06	Cont	Cont	
FRC Prgrm Mgmnt Spt	WR	MCSC Quantico, VA	0.000					0.022	10/05	0.438	10/06	Cont	Cont	
Subtotal Management			3.659	0.050		1.055		0.068		0.999		Cont	Cont	
Remarks:														
Total Cost			4.771	10.846		9.210		1.468		5.115		Cont	Cont	

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Exhibit R-4/4a Schedule Profile/Detail							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT		PROJECT NUMBER AND NAME			
RDT&E, N /BA 7 Operational Sys				D0206624M Marine Corps Combat Services Spt		C0201 Logistical Vehicle System Replacement (LVSR)			

LVSR SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Release RFP	3Q								
Source Selection		1-2Q							
Contract Award		2Q							
Prototype Delivery			2Q						
DT/OA			2-4Q						
LRIP Delivery					1Q				
FAT					1-4Q				
IOT&E					2Q	1Q			
FRP Decision						2Q			
5th Wheel/Wrecker Option				2Q					
Prototype Delivery					2Q				
DT/OA					2Q	1Q			
LRIP Delivery						4Q			
FAT						4Q	3Q		
FRP Decision								2Q	
IOC							1Q		
FOC									3Q

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DATE:

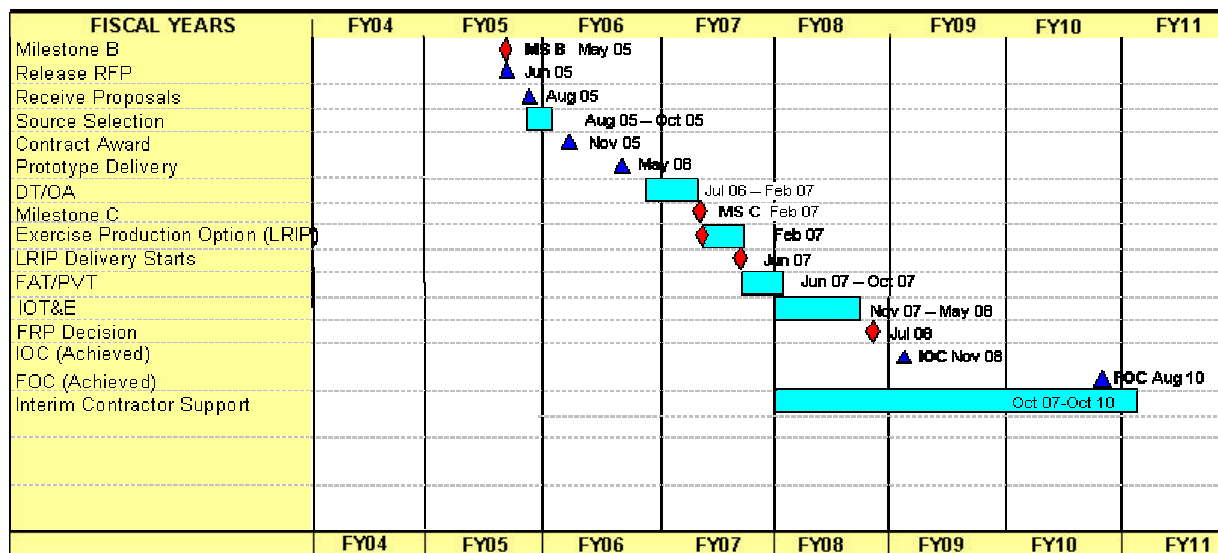
February 2005

Exhibit R-4/4a Schedule Profile/Detail

APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT
 RDT&E, N /BA 7 Operational Sys D0206624M Marine Corps Combat Services Spt

PROJECT NUMBER AND NAME
 C0201 Logistical Vehicle System Replacement (LVSR)

Flatrack Refueling Capability FRC



Program Funding Summary

(APPN, BLI #,

NOMEN)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N (LVSR)	10.846	9.210	0.046	4.228	0.400	0.915	0.000	0.000	0.000	25.645
(U) RDT&E,N (Flatrack)	0.000	0.000	1.422	0.887	0.709	0.000	0.000	0.000	0.000	3.018
(U) PMC, BLI# 509300 LVSR	0.000	0.000	28.366	63.850	95.680	216.643	194.653	183.340	Cont	Cont
(U) PMC, BLI# 509300 FLATRACK	0.000	0.000	0.000	7.128	24.583	37.360	0.000	0.000	0.000	69.071

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Exhibit R-4/4a Schedule Profile/Detail			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVIT	PROGRAM ELEMENT	PROJECT NUMBER AND NAME		
RDT&E, N /BA 7 Operational Sys	D0206624M Marine Corps Combat Services Spt	C0201 Logistical Vehicle System Replacement (LVSr)		

FLATRACK SCHEDULE DETAIL	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Release RFP	3Q						
Source Selection	4Q						
Contract Award		1Q					
Prototype Delivery		3Q					
DT/OA		4Q	1-2Q				
LRIP Delivery			3Q				
FAT			3-4Q	1Q			
IOT&E				1-3Q			
FRP Decision				4Q			
IOC Achieved					1Q		
FOC Achieved						4Q	
Interim contractor Support				2-4Q	1-4Q	1-4Q	1-2Q

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev		0206624M Marine Corps Combat Services Spt				C2316 Combat Services Support Engineering Equipment				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost		10.907	1.964	3.428	0.518	0.529	0.536	0.548	0.559	
RDT&E Articles Qty										
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:										
<p>A. This project includes improvements in all areas of Combat Service Support Engineering Equipment. The Assault Breacher Vehicle (ABV) will be a fully tracked, armored combat engineer vehicle capable of keeping pace with the maneuver force. It will breach minefields with Marine Corps integrated items to include a full width mine plow, two line charges, remote control kit, weapons station and lane marking system. The ABV is a survivable combat system which will enhance the combat breaching capabilities of the ground combat elements. The overall system is integrated on the ABRAMS tank chassis to provide commonality with the tank fleet while providing the latest technology in armor protection. It will provide capabilities to breach minefields and complex obstacles.</p>										
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		0.641	0.000	0.000	0.000					
RDT&E Articles Qty										
<p>ABV: Technical manuals and drawings, travel and management support. Support and management includes obtaining safety certification from the Weapons Systems Explosive Safety Review Board (WSESRB).</p>										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		2.586	0.000	0.000	0.000					
RDT&E Articles Qty										
<p>ABV: Developmental testing.</p>										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	0.000					
RDT&E Articles Qty										
<p>ABV: Integration of the line charges, lane-marking system, weapons station, remote control kit, & full width mine plow onto the modified M1 Tank Chassis. Build three (3) LRIP vehicles for OT&E. One demonstrator will be used as a configuration control vehicle for the development, tech manuals and drawings for the three LRIP vehicles.</p>										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		1.000	0.000	0.000	0.000					
RDT&E Articles Qty										
<p>ABV: Operational testing, vulnerability/survivability testing, and Reliability, Availability and Maintainability (RAM) testing of the ABV.</p>										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		0.252	1.474	0.000	0.000					
RDT&E Articles Qty										
<p>ABV: Conduct a limited user test and Operational Test & Evaluation.</p>										
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007					
Accomplishment/Effort Subtotal Cost		5.998	0.000	0.000	0.000					
RDT&E Articles Qty										
<p>MIAI Firepower Enhancement: Conduct comparative assessments of competing designs and conducted system design review to finalize system performance specification. Perform final integration and prove out. Perform engineering and manufacturing development (EMD) phase activities. Procure test articles; conduct developmental and operational test and evaluation; pre-production technical reviews/audits, and logistical support development in planning for production.</p>										

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY				PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev		0206624M Marine Corps Combat Services Spt		C2316 Combat Services Support Engineering Equipment		
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006
Accomplishment/Effort Subtotal Cost		0.430		0.490		0.428
RDT&E Articles Qty						
M1A1 Armor Mods: Continue joint participation and evaluation of prospective modifications including component enhancements, advanced fire control systems, survivability systems, Combat Identification, mobility and others.						
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006
Accomplishment/Effort Subtotal Cost		0.000		0.000		2.100
RDT&E Articles Qty						
Expeditionary Assault Bridge (EAB): Begin system integration with M60A1 tank chassis bridge launcher, M1A1 tank chassis and MLC 70 assault bridge to build first article EAB demonstrator. EAB is armored vehicle used for rapidly employing, short-gap, assault crossing system, capable of spanning natural and manmade obstacles up to 60 feet (18.29) while under fire for up to Military Load Class (MLC) 70-ton vehicles. The EAB consists of a rebuilt and upgraded M1A1 Tank chassis with existing MLC70 scissors bridge and a commercial launcher. The EAB will provide the MAGTF with the capability to conduct assault and tactical wet and dry gap crossings in all types of climate and terrain, including slopes, trenches and vertical steps. The M1A1 based launcher will provide the survivability, maintainability and maneuverability required to keep pace with the maneuver force.						
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006
Accomplishment/Effort Subtotal Cost		0.000		0.000		0.500
RDT&E Articles Qty						
EAB: Program management and engineering support.						
COST (\$ in Millions)		FY 2004		FY 2005		FY 2006
Accomplishment/Effort Subtotal Cost		0.000		0.000		0.400
RDT&E Articles Qty						
EAB: Conduct developmental testing and evaluation.						
(U) Total \$		10.907		1.964		3.428
(U) PROJECT CHANGE SUMMARY:						
		FY2004	FY2005	FY2006	FY2007	
(U) FY 2005 President's Budget:		7.660	1.984	0.513	0.531	
(U) Adjustments from the President's Budget:						
(U) Congressional/OSD Program Reductions						
(U) Congressional Rescissions						
(U) Congressional Increases						
(U) Reprogrammings		3.404		3.000		
(U) SBIR/STTR Transfer		-0.157				
(U) Minor Affordability Adjustments			-0.020	-0.085	-0.013	
(U) FY 2006 President's Budget:		10.907	1.964	3.428	0.518	
CHANGE SUMMARY EXPLANATION:						
(U) Funding: Increase funding in FY04 & FY06 due to increases from lower priority Marine Corps Programs.						
(U) Schedule: Not Applicable.						
(U) Technical: Not Applicable.						

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY							PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev			0206624M Marine Corps Combat Services Spt				C2316 Combat Services Support Engineering Equipment			
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC Line (BLI# 613300)- ABV	0.000	8.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.090
(U) PMC Line (BLI# 652000)EOD Sys- ABV	0.000	0.000	62.782	32.861	0.000	0.000	0.000	0.000	0.000	95.643
(U) PMC Line (BLI# 651800) Amphib SE- EAB	0.000	0.000	0.000	0.000	7.017	11.940	2.583	2.638	0.000	24.178
(U) PMC (BLI#206300) Mod Kits (M1A1 Mod Kits)	2.597	3.848	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.617
(U) PMC (BLI#206300) Safety Mods (M1A1)	0.971	3.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.093
(U) PMC (BLI#206100) Mod Kits (M1A1 Mod Kits)	0.000	0.000	3.919	4.005	4.141	4.234	4.333	4.442	Cont	Cont
(U) PMC (BLI#206100) Safety Mods (M1A1)	0.000	0.000	3.272	3.261	3.162	1.641	1.712	1.743	Cont	Cont
(U) PMC (BLI#209500) M1A1 FEP (M1A1)	3.725	36.731	33.454	18.083	25.883	0.000	0.000	0.000	0.000	117.876
(U) Related RDT&E:										
(U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems										
(U) PE 0603640M Marine Corps Advanced Technology Demonstration										
(U) PE 0604804A Logistics and Engineering Equip/Engr Development										
(U) PE 0206313M Marine Corps Communications										
(U) D. ACQUISITION STRATEGY:										
<p>(U) The M1A1 Tank MOD and Safety Mods Program leverages Army developmental programs to create a system that more readily meets Marine Corps requirements. Modification includes safety, reliability, and technology up-upgrades to meet Marine Corps requirements. M1A1 Tank Mods will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications to the M1A1 Tank and supporting platforms. M1A1 Tank Firepower Enhancement - Competitively Awarded 2 Cost Plus Firm Fixed contracts to conduct parallel design, integration and demonstration of Non-Developmental Item (NDI) technology for the M1A1 Tank Firepower Enhancement. Down select to a single contractor with the most promising concept, continuing with design development until production ready. Finally, transition to production with the winning design by exercising a Firm Fixed Price contract option.</p>										
<p>(U) ABV: SYSTEM DEVELOPMENT & DEMONSTRATION PHASE: Conduct modeling to support vehicle platform selection and trade studies for line charge integration. Modeling applications to support Analysis of Alternatives/Testing & Evaluation Alternatives (AOA/TEA). Establish Statement of Work (SOW) with Anniston Army Depot to build demonstrator vehicle and integrate full width mine plow, lane marking system, line charges, weapons systems & remote control system to the M1 Tank Chassis. Conduct plow tests with the demonstrator vehicle. Conduct developmental testing to include live mine testing and survivability/vulnerability analysis. Conduct trade study (examining capabilities and cost to down select). Select a systems integrator for the production of the LRIP and production vehicles.</p>										
<p>Expeditionary Assault Bridge (EAB): Begin system integration with M60A1 tank chassis bridge launcher, M1A1 tank chassis and MLC 70 assault bridge to build first article EAB demonstrator. EAB is armored vehicle used for rapidly employing, short-gap, assault crossing system, capable of spanning natural and manmade obstacles up to 60 feet (18.29) while under fire for up to Military Load Class (MLC) 70-ton vehicles. The EAB consists of a rebuilt and upgraded M1A1 Tank chassis with existing MLC70 scissors bridge and a commercial launcher. The EAB will provide the MAGTF with the capability to conduct assault and tactical wet and dry gap crossings in all types of climate and terrain, including slopes, trenches and vertical steps. The M1A1 based launcher will provide the survivability, maintainability and maneuverability required to keep pace with the maneuver force.</p>										
(U) E. MAJOR PERFORMERS:										
FY04 - 02/03 ATC, Aberdeen, MD-Test activity for the ABV during Development Testing (DT)										

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Exhibit R-3 Cost Analysis							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev				0206624M Marine Corps Combat Services Spt			C2316 Combat Services Support Engineering Equip							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering -ABV	Various	Various	7.512	0.265	3Q/04	0.000						0.000	7.777	8.501
Systems Engineering -ABV	Various	Various	3.418	0.407	3Q/04	0.000						0.000	3.825	3.418
Systems Engineering -ABV	WR	NSWC, Crane, IN	0.495	0.055	3Q/04	0.000						0.000	0.550	0.550
Engineering/Design-ABV	MIPR	PM Unmanned Grd Vehicles	1.800	0.099	3Q/04	0.000						0.000	1.899	1.800
Systems Engineering -EAB	WR	Various	0.000	0.000		0.000		2.100	1Q/06			0.000	2.100	2.100
Prod Dev - M1A1 Firepower	RCP	Raytheon, McKinney, TX	0.000	3.670	1Q/04	0.000						0.000	3.670	3.670
PROD DEV - M1A1 Mods	RCP	United Defense, Albany Ga	0.000	0.250	1Q/04	0.177	1Q/05					Cont	Cont	
PROD DEV - M1A1 Mods	RCP	Various	0.000	0.477		0.143	1Q/05	0.253	1Q/06	0.343	1Q/06			
Subtotal Product Dev			13.225	5.223		0.320		2.353		0.343		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support - ABV	RCP	BAE, Stafford, VA	1.979	0.000		0.000						0.301	2.280	2.280
Program Support - ABV	RCP	MCSC, Quantico, VA	1.293	0.325	3Q/04	0.000						0.225	1.843	1.731
Program Support - ABV	RCP	SVERDRUP, Stafford, VA	0.200	0.000		0.000						0.000	0.200	0.200
Program Support - ABV	WR	NAVFAC	0.940	0.040	3Q/04	0.000						0.000	0.980	0.940
Program Support - EAB	WR	BAE, Stafford, VA	0.000	0.000		0.000		0.500	1Q/06			0.000	0.500	0.500
Program Supp-M1A1 Mods	WR	MCSC, Quantico, VA	0.000	0.180	1Q/04	0.170	1Q/05	0.175	1Q/06	0.175	1Q/06	Cont	Cont	
Program Supp-M1A1 FEP	MIPR	NWSC, Dahlgren, VA	0.000	0.013	3Q/04	0.000						0.000	0.013	0.013
Program Supp-M1A1 FEP	MIPR	PEO STRICOM, Orlando, FL	0.000	0.076	3Q/04	0.000						0.000	0.076	0.076
Program Supp-M1A1 FEP	MIPR	NVL, Belvoir, VA	0.000	0.228	1Q/04	0.000						0.000	0.228	0.228
Program Supp-M1A1 FEP	MIPR	Tacom, ARDEC Warren, MI	0.000	0.085	1Q/04	0.000						0.000	0.085	0.085
Subtotal Support			4.412	0.947		0.170		0.675		0.175		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT&E - ABV	MIPR	WES, Vicksburg, MS	1.309	0.335	3Q/04	0.000						0.000	1.644	1.644
DT&E - ABV	MIPR	APG, MD	0.500	1.401	3Q/04	0.000						Cont	Cont	
DT&E - ABV	WR	NSWC, Crane, IN	1.160	0.000		0.000						0.000	1.160	1.160
DT&E - ABV	MIPR	APG, MD	0.000	1.252	1Q/04	0.589	1Q/05					Cont	Cont	
IOT&E - ABV	WR	MCOTEA	0.900	0.000		0.885	1Q/05					0.000	1.785	1.800
Engineering/Design-ABV	MIPR	PM Unmanned Grd Vehicles	0.000	0.300	TBD	0.000						0.000	0.300	0.300
EAB	MIPR	Aberdeen Prvg Grnd, MD	0.000	0.000		0.000		0.400	1Q/06			0.000	0.400	0.400
M1A1 Firepower	RCP	TBD	0.000	1.152	TBD	0.000						0.000	1.152	1.492
M1A1 Firepower	MIPR	APG, MD	0.000	0.169	1Q/04	0.000						0.000	0.169	0.169
M1A1Firepower	MIPR	YUMA, AZ	0.000	0.128	1Q/04	0.000						0.000	0.128	0.128
Subtotal T&E			3.869	4.737		1.474		0.400		0.000		Cont	Cont	
Remarks: Assault Breacher Vehicle (ABV) Expeditionary Assault Bridge (EAB)														
Total Cost			21.506	10.907		1.964		3.428		0.518		Cont	Cont	

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Exhibit R-4/a Schedule Profile Detail

DATE:

February 2005

APPROPRIATION/BUDGET ACT/PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDTE&E, N /BA 7 Operational Sy0206624M Marine Corps Combat Services Spt

C2316 Combat Services Support Engineering Equip

ASSAULT BREACHER VEHICLE

Fiscal Year Quarter	00				01				02				03				04				05				06				07							
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
Milestone 0	◆																																			
System Development									■																											
System Testing/DT													■																							
Milestone B													◆																							
Build 3 LRIP Vehicles													■																							
LUE/FUE																	■																			
IOT&E																					□															
Fielding Decision/ Full Rate Prod/MS C																									◀				▶							
IOC																													◆							
FOC																																	▶			

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDTE&E,N ABV

(U) PMC, BLI# 613300 ABV

(U) PMC, BLI# 652000 EOD Sys ABV

FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
4.479	1.474	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.953
0.000	8.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.090
0.000	0.000	62.756	32.861	0.000	0.000	0.000	0.000	0.000	95.617

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Exhibit R-4/4a Schedule Profile Detail					DATE: February 2005				
APPROPRIATION/BUDGET ACT/PROGRAM ELEMENT RDTE&E, N /BA 7 Operational Sy0206624M Marine Corps Combat Services Spt					PROJECT NUMBER AND NAME C2316 Combat Services Support Engineering Equip				
ABV SCHEDULE DETAIL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
System Development	1st Qtr								
System Testing/DT		1st Qtr							
Milestone B		4th Qtr							
Build 3 PRP		4th Qtr							
Limited User Evaluation/Field User Evaluation			3rd Qtr						
IOT&E				2nd Qtr					
Fielding Decision/Full Rate Production Decision MS C				3rd Qtr					
IOC					4th Qtr				
FOC						4th Qtr			

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Exhibit R-4/4a Schedule Profile Detail

DATE:

February 2005

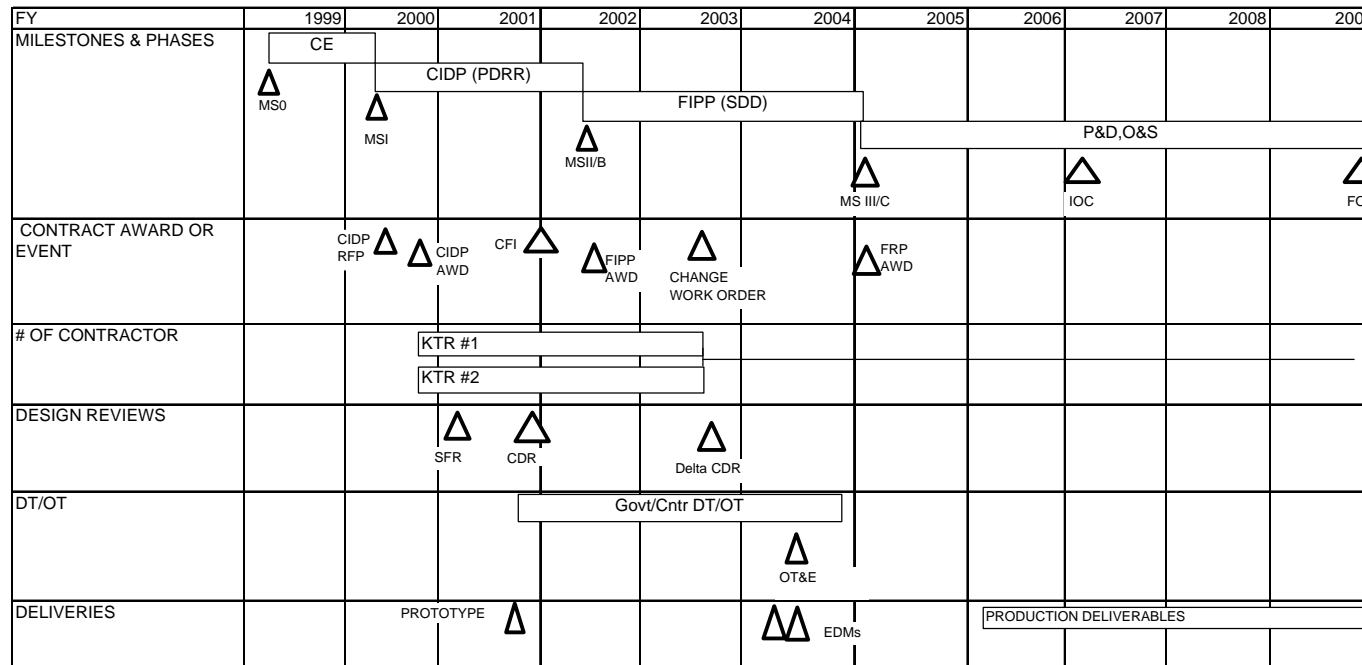
APPROPRIATION/BUDGET ACT/PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N /BA 7 Operational Sy0206624M Marine Corps Combat Services Spt

C2316 Combat Services Support Engineering Equip

M1A1 FIREPOWER ENHANCEMENT PROGRAM (FEP)



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N M1A1 FEP

(U) PMC BLI# 209500 M1A1 FEP

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N M1A1 FEP	5.998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.998
(U) PMC BLI# 209500 M1A1 FEP	3.725	36.731	33.454	18.083	25.883	0.000	0.000	0.000	0.000	117.876

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Exhibit R-4/4a, Schedule Profile/Detail

(Exhibit R-4/4a, page 17 of 22)

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Exhibit R-4/4a Schedule Profile Detail

DATE:

February 2005

APPROPRIATION/BUDGET ACT/PROGRAM ELEMENT

RDTE&E, N /BA 7 Operational Sy/0206624M Marine Corps Combat Services Spt

PROJECT NUMBER AND NAME

C2316 Combat Services Support Engineering Equip

Fiscal Year

EXPEDITIONARY ASSAULT BRIDGE

Quarter																																			
Fiscal Year Quarter				01 I II III IV				02 I II III IV				03 I II III IV				04 I II III IV				05 I II III IV				06 I II III IV				07 I II III IV				08 I II III IV			
Milestone A																◆																			
System Development																				▢															
System Testing/DT																				▢															
Milestone B																				◆															
LUE/FUE																								▢											
MS C																												◆							
IOT&E																												▢							
Fielding Decision/ Full Rate Prod																												◆				▢			
IOC																																◆			
FOC - FY 08																																◆			

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDTE&E,N EAB

(U) PMC BLI#651800 Amph Supt Eq EAB

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDTE&E,N EAB	0.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.000	3.000
(U) PMC BLI#651800 Amph Supt Eq EAB	0.000	0.000	0.000	0.000	7.017	11.940	2.583	2.638	Cont	Cont

EAB SCHEDULE DETAIL

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Development				2nd Qtr				
System Testing/DT				3rd Qtr				
Milestone B				3rd Qtr				
Limited User Evaluation/Field User Evaluation					4thQtr			
Milestone C						1st Qtr		
IOT&E						2nd Qtr		
Fielding Decision/Full Rate Production Decision						4th Qtr		
IOC							4th Qtr	
FOC							4th Qtr	

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206624M Marine Corps Combat Services Support			PROJECT NUMBER AND NAME C2929 Testing Measuring Diagnostic Equip (TMDE) & SE					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
	2.279	1.066	4.332	7.249	10.815	1.940	1.502	1.549	
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Alternative Power Sources for Communications Equipment (APSCE) is a suite of devices that provides the commander with the capability to use existing power to operate communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators.

The Marine Corps Family of Automatic Test Systems (ATS) formerly TETS, provides automatic test program capability for use by technicians both in garrison and forward edge of battlefield. Specific work in area of interactive electronic tech manuals, condition/predictive based maintenance, embedded sensors, prognostics. The Automatic Test Systems, FY-04 effort is to provide research, evaluation and test of hulled/tracked weapon systems.

The Marine Corps Automatic Test Equipment (MCATE), provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities. The Autonomic Logisitics (AL) provides weapon system sensor data collection & processing for information conversion to provide situational awareness. FY-06 effort will focus on developing system, operational, and technical architectures for condition based maintenance for Marine Corps Ground Weapon Systems. FY-07 efforts will develop Low Rate Initial Production (LRIP) system health hardware and software for Marine Corps weapon systems.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

During FY-06 the AL program will conduct R&D efforts to explore collection & processing of system health data from weapon systems sensor and digital data buss structures for system health information. Work will include diagnostic and prognostic algorithm development. FY-07 R&D efforts will focus on system health application for legacy weapon systems that are not supported with Digital sensors or data buss structures. Conduct developmental test and evaluation of platform level system health hardware and software. FY-08 Funding will develop Ground Combat Support System (GCSS) interfaces.

COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.313	0.125	0.130	0.137
RDT&E Articles Qty				
APSCE: Research, evaluation, test and selection of alternative power source products for the APSCE suite of equipment.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.542	0.462	0.512	0.567
RDT&E Articles Qty				
ATS: Development of new technology testing applications in support of emerging weapon systems.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.424	0.479	0.902	0.517
RDT&E Articles Qty				
MCATE: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.788	6.028
RDT&E Articles Qty				
ALS: Weapon sensor data collection & processing for information conversion to provide situational awareness.				
(U) Total \$	2.279	1.066	4.332	7.249

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine Corps Combat Services Support				C2929 Testing Measuring Diagnostic Equip (TMDE) & SE					
	FY2004	FY2005	FY2006	FY2007						
(U) FY 2005 President's Budget:	2.209	1.075	1.514	1.139						
(U) Adjustments from the President's Budget:										
(U) Congressional/OSD Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings			2.788	6.028						
(U) SBIR/STTR Transfer	-0.053									
(U) Minor Affordability Adjustment	0.123	-0.009	0.030	0.082						
(U) FY 2006 President's Budget:	2.279	1.066	4.332	7.249						
CHANGE SUMMARY EXPLANATION:										
(U) Funding: Increased fund in FY06 and FY07 are due to POM 06										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U)PMC Line(BLI# 636600)Power Equip APSCE	4.512	3.407	3.265	3.772	0.000	0.000	0.000	0.000	0.000	14.956
(U) PMC Line (BLI# 440200) TETS ***	17.041	13.749	10.390	5.682	10.256	15.809	0.000	0.000	Cont	Cont
(U) PMC Line (BLI# 440200) AL ***	0.000	0.000	0.000	0.997	6.451	3.437	3.358	3.027	Cont	Cont
(U) PMC Line (BLI# 446000) WSSS ***	2.312	2.296	3.769	3.737	3.934	4.510	4.667	4.754	Cont	Cont
*** FY06 and beyond, PMC Line (BLI# 418100) Repair & Test Equip										
(U) Related RDT&E:										
(U) D. ACQUISITION STRATEGY:										
Competitive through the GSA Schedule. All other work is being done in-house at Marine Corps Logistics Base (MCLB), Albany, Naval Surface Warfare Center (NSWC), and Seal Beach, CA.										
AL Competitive through Marine Corps Systems Command Contracts. All other work is being done in house and at Gov Engineering facilities.										
(U) E. MAJOR PERFORMERS: Automatic Test Equipment Program (ATEP), Albany, GA and Naval Surface Warfare Centers Corona and Seal Beach, CA. All other performers to be determined at this time.										

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Exhibit R-3 Cost Analysis									DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206624M Marine Corps Combat Services Spt				C2929 Testing Measuring Diagnostic Equip (TMDE) & SE							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Study & Hardware	RCP	Mantech, Va	0.122	0.040	03/04							0	0.162	0.162
Study	RCP	MKI, Va		0.240	03/04			0.375	12/05	0.255	02/07	0	0.870	0.87
Study	RCP	TBD	0.068	0.250	03/04			1.580	02/06	0.500	02/07	0	2.398	2.398
Study & Hardware	RCP	TBD		0.500	07/04	0.687	03/05					0	1.187	1.187
Hardware	RCP	Willitis Electronic Assembly	0.019					0.092	12/05				0.111	0.111
Hardware	RCP	MCSC, Quantico VA	0.028	0.060	12/03	0.092	12/04	0.380	12/05	4.300		0	4.860	4.860
Software Support	WR	ATEP, Ga	0.150	0.375	12/03	0.252	12/04	0.500	12/05	0.354	12/07	0	1.631	1.631
Hardware & Study	WR	NSWC, Ca	0.043	0.250	03/04					0.775	12/07	Cont	Cont	
Subtotal Product Dev			0.430	1.715		1.031		2.927		6.184		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Travel	DTS	MCSC, Quantico VA	0.094	0.035		0.035		0.116		0.146		Cont	Cont	
													0.000	
Subtotal Support			0.094	0.035		0.035		0.116		0.146		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
EVAL TESTING	WR	Albany, GA	0.084	0.129	02/04			0.163	02/06			0.000	0.376	0.376
													0.000	
Subtotal T&E			0.084	0.129		0.000		0.163		0.000		0.000	0.376	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support	FFP	MCSC, Quantico		0.400	02/04			1.126	12/05	0.919	12/06		2.445	2.445
													0.000	
Subtotal Management			0.000	0.400		0.000		1.126		0.919		Cont	Cont	
Remarks:														
Total Cost			0.608	2.279		1.066		4.332		7.249		Cont	Cont	
(U) FY 2006 President's Budget:														

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207161N-Tactical Air Intercept				PROJECT NUMBER AND NAME E0457-AIM-9X			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.185	4.024	9.384	7.930	2.472	1.205	1.230	1.254
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>AIM-9X (Sidewinder) is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X short range air-to-air missile modification program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short range air-to-air missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuse, rocket motor and warhead). Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207161N-Tactical Air Intercept	PROJECT NUMBER AND NAME E0457-AIM-9X		
(U) B. Accomplishments/Planned Program				
Test & Evaluation	FY 04	FY 05	FY 06	FY 07
Subtotal Cost	0.300	0.370	1.230	2.310
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				
Primary P3I Fuze/ Systems Engineering/ Management	FY 04	FY 05	FY 06	FY 07
Subtotal Cost	1.885	2.854	5.854	5.320
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				
NAVY Fuse (Platform OFS Mods)	FY 04	FY 05	FY 06	FY 07
Subtotal Cost	0.000	0.800	2.300	0.300
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				
<div style="border: 1px solid black; height: 30px; margin-top: 10px;"></div>				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207161N-Tactical Air Intercept	PROJECT NUMBER AND NAME E0457-AIM-9X																																																																																		
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 04</th> <th style="text-align: right; width: 10%;">FY 05</th> <th style="text-align: right; width: 10%;">FY 06</th> <th style="text-align: right; width: 10%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">2.236</td> <td style="text-align: right;">4.061</td> <td style="text-align: right;">9.345</td> <td style="text-align: right;">7.869</td> </tr> <tr> <td>Current President's Budget</td> <td style="text-align: right;">2.185</td> <td style="text-align: right;">4.024</td> <td style="text-align: right;">9.384</td> <td style="text-align: right;">7.930</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.051</td> <td style="text-align: right; border-top: 1px solid black;">-0.037</td> <td style="text-align: right; border-top: 1px solid black;">0.039</td> <td style="text-align: right; border-top: 1px solid black;">0.061</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.036</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.041</td> <td></td> <td></td> <td></td> </tr> <tr> <td> OSD</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.046</td> <td style="text-align: right;">-0.040</td> </tr> <tr> <td> Navy (FMB/Sponsor/NAVAIR)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.085</td> <td style="text-align: right;">0.101</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.010</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.051</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.037</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.039</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.061</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p style="margin-left: 20px;">(U) Schedule: The program achieved MSIII in 05/04.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p style="margin-left: 20px;">(U) Not Applicable.</p>						FY 04	FY 05	FY 06	FY 07	(U) Funding:					Previous President's Budget:	2.236	4.061	9.345	7.869	Current President's Budget	2.185	4.024	9.384	7.930	Total Adjustments	-0.051	-0.037	0.039	0.061	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.036			Congressional rescissions					SBIR/STTR Transfer	-0.041				OSD		-0.001	-0.046	-0.040	Navy (FMB/Sponsor/NAVAIR)					Economic Assumptions			0.085	0.101	Reprogrammings	-0.010				Congressional increases					Subtotal	-0.051	-0.037	0.039	0.061
	FY 04	FY 05	FY 06	FY 07																																																																																
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Congressional rescissions																																																																																				
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OSD		-0.001	-0.046	-0.040																																																																																
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R-1 SHOPPING LIST - Item No. 188

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005																																																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7			PROGRAM ELEMENT NUMBER AND NAME 0207161N-Tactical Air Intercept			PROJECT NUMBER AND NAME E0457-AIM-9X																																																																						
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. & Name</u></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>FY 2008</u></th> <th style="text-align: right;"><u>FY 2009</u></th> <th style="text-align: right;"><u>FY 2010</u></th> <th style="text-align: right;"><u>FY 2011</u></th> <th style="text-align: right;"><u>To Complete</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>220900 AIM-9X Missile</td> <td style="text-align: right;">25.319</td> <td style="text-align: right;">31.256</td> <td style="text-align: right;">37.823</td> <td style="text-align: right;">47.697</td> <td style="text-align: right;">44.258</td> <td style="text-align: right;">40.965</td> <td style="text-align: right;">39.275</td> <td style="text-align: right;">38.566</td> <td style="text-align: right;">784.290</td> <td style="text-align: right;">1089.449</td> </tr> <tr> <td>AIM-9X Spares (Initial Spares)</td> <td style="text-align: right;">1.410</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">1.410</td> </tr> <tr> <td>AIM-9X Mods/Missile (Air Force)</td> <td style="text-align: right;">52.730</td> <td style="text-align: right;">52.392</td> <td style="text-align: right;">44.963</td> <td style="text-align: right;">42.853</td> <td style="text-align: right;">44.369</td> <td style="text-align: right;">72.316</td> <td style="text-align: right;">78.600</td> <td style="text-align: right;">61.487</td> <td style="text-align: right;">520.315</td> <td style="text-align: right;">970.025</td> </tr> <tr> <td colspan="11" style="padding-top: 10px;">(U) RELATED AIR FORCE RDT&E:</td> </tr> <tr> <td>Program Element: 0207161F</td> <td style="text-align: right;">0.354</td> <td style="text-align: right;">5.509</td> <td style="text-align: right;">15.639</td> <td style="text-align: right;">8.899</td> <td style="text-align: right;">7.867</td> <td style="text-align: right;">5.832</td> <td style="text-align: right;">6.086</td> <td style="text-align: right;">6.310</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">56.496</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p>The LRIP 4, LOT 4 Firm-Fixed-Price (FFP) contract was awarded 4/04. ASN(RD&A) made the Full-Rate Production (FRP) decision in May 2004. FRP 1, LOT 5 contract was awarded 11/04. FRP 1, LOT V through FRP 3 LOT 7 contracts will be FFP. Rewards or penalties are provided depending on Raytheon Systems Corporation (RSC) performance relative to the Procurement Price Commitment Curve (PPCC).</p>											<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	220900 AIM-9X Missile	25.319	31.256	37.823	47.697	44.258	40.965	39.275	38.566	784.290	1089.449	AIM-9X Spares (Initial Spares)	1.410	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.410	AIM-9X Mods/Missile (Air Force)	52.730	52.392	44.963	42.853	44.369	72.316	78.600	61.487	520.315	970.025	(U) RELATED AIR FORCE RDT&E:											Program Element: 0207161F	0.354	5.509	15.639	8.899	7.867	5.832	6.086	6.310	0.000	56.496
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																																																		
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: FEBRUARY 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N/BA-7			0207161N-Tactical Air Intercept			E0457-AIM-9X						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/w Dev (DEM-VAL)	C/CPIF	HUGHES, TUCSON, AZ	6.685								6.685	6.685
Primary H/w Dev (DEM-VAL)	C/CPIF	RAYTHEON, BEDFORD, MA	8.587								8.587	8.587
PRIMARY HARDWARE (EMD)	C/CPIF/A	RAYTHEON, TUCSON, AZ	120.434								120.434	278.694
EMD AWARD FEE	C/CPIF/A	RAYTHEON, TUCSON, AZ	14.145								14.145	14.145
AIRCRAFT INTEGRATION	C/CPFF	BOEING, ST LOUIS, MO	24.397								24.397	24.397
Systems Engineering	WX	NAWCWD	33.786	0.400	10/04	0.400	11/05	0.400	11/06	0.200	35.186	
Systems Engineering	WX	NAWCAD	3.826								3.826	
MISC HW/SW (EFFORTS <\$1.0M)	VARIOUS	VARIOUS	7.765								7.765	
ANCILLARY HWD (LAU-7 Launcher)	C/CPFF	BOEING, ST LOUIS, MO	4.552								4.552	4.552
PRIMARY H/W-P3I Fuse Contract	C/CPFF	RAYTHEON, TUCSON, AZ	1.278	2.304	12/04	5.304	12/05	4.770	12/06	0.881	14.537	14.537
NAVY FUZE (Platform OFS Mods)	C/CPFF	RAYTHEON, TUCSON, AZ		0.800	12/04	2.300	12/05	0.300	12/06	0.600	4.000	
ENGINEERING SERVICES	MIPR	EGLIN, AFB, FLA	1.810								1.810	
Subtotal Product Development			227.265	3.504		8.004		5.470		1.681	245.924	

Remarks:

EMD Contract Target Value includes both Navy and Air Force Funding. All other fields represent Navy share only.

Total Prior Years - FY95 and prior under P.E. 0603715D. FY96 and out are funded under P.E. 0207161N.

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 10)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RD T&E, N/BA-7			0207161N-Tactical Air Intercept			E0457-AIM-9X						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCWD	26.313	0.300	11/04	0.930	11/05	1.900	11/06	2.495	31.938	
Developmental Test & Evaluation	WX	NAWCAD	4.683								4.683	
Operational Testing	WX	OPTEVFOR	2.331			0.150	11/05	0.250	11/06	0.600	3.331	
Navy T&E (Contract Dev Testing)	C/CPFF	Raytheon		0.070	11/04	0.100	11/05	0.110	11/06	0.285	0.565	0.565
Navy T&E (Gov Operational Test Sup	WX	NAWCWD				0.050	11/05	0.050	11/06	0.200	0.300	
Subtotal T&E			33.327	0.370		1.230		2.310		3.580	40.817	
Remarks:												
Contractor Engineering Support	ID/IQ,T&M	Endmark, Arlington, Va	3.670								3.670	
Government Engineering Support	ID/IQ,T&M	MSTTm Arlington, Va	0.986								0.986	
Program Management Support	ID/IQ,T&M	NSM, Arlington, Va	1.440								1.440	
Travel	WX	PMA259 IPT	1.343	0.150	11/04	0.150	11/05	0.150	11/06	0.600	2.393	
Contractor Engineering Support	ID/IQ,T&M	Various	1.430							0.291	1.721	
Subtotal Management			8.869	0.150		0.150		0.150		0.891	10.210	
Remarks:												
Total Cost			269.461	4.024		9.384		7.930		6.152	296.951	
Remarks:												

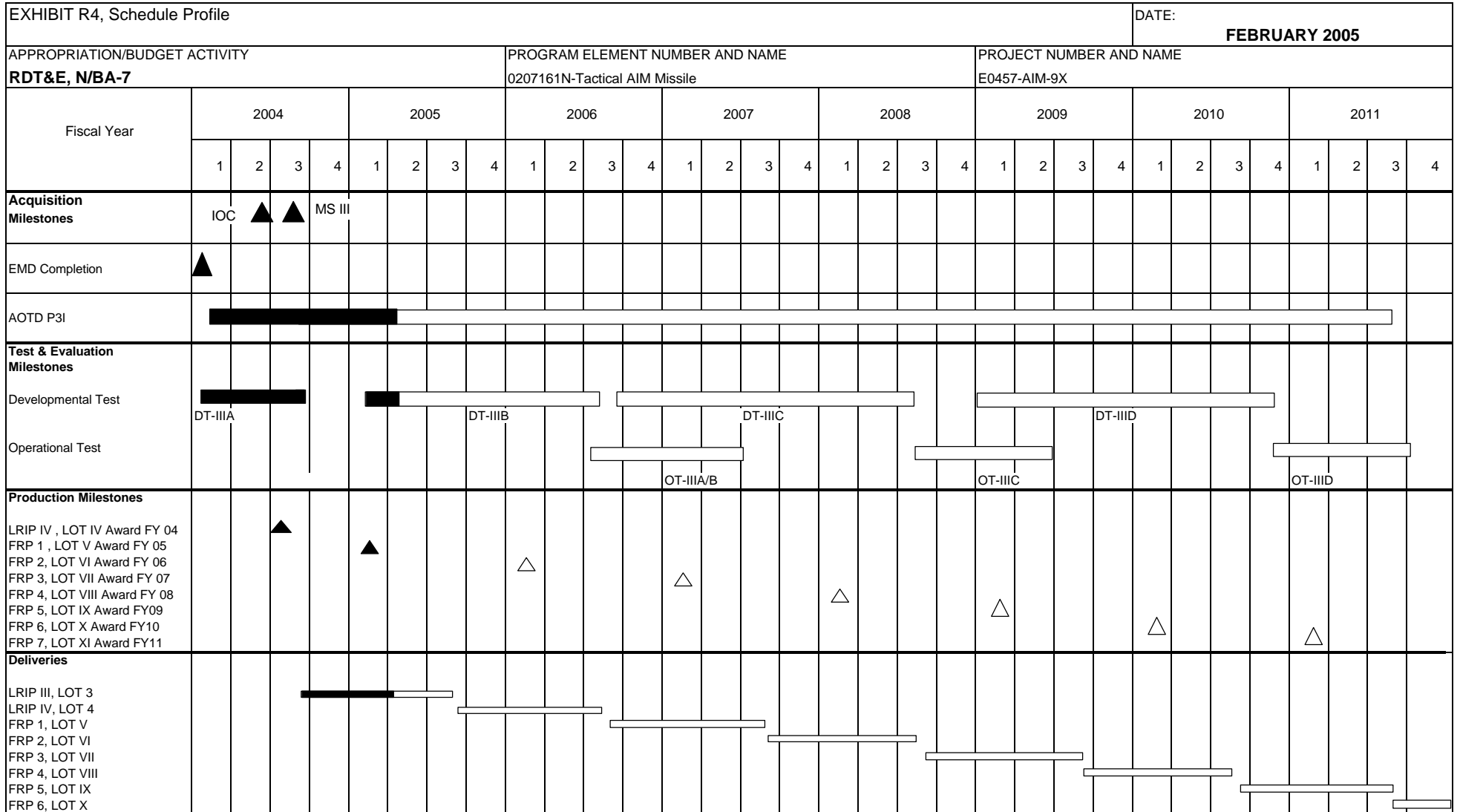
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 10)

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 10)

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Exhibit R-4a, Schedule Detail						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RD T& BA-7	PROGRAM ELEMENT 0207161N-Tactical AIM Missiles				PROJECT NUMBER AND NAME E0457-AIM-9X			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IOC	2Q							
Full Rate Production (FRP) Decision (MSIII)	3Q							
EMD Completion	1Q							
AOTD P3I	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
Developmental Test DT-IIIA	1Q-3Q							
Developmental Test DT-IIIB		1Q-4Q	1Q-3Q					
Developmental Test DT-IIIC			3Q - 4Q	1Q-4Q	1Q-3Q			
Developmental Test DT-IIID						1Q-4Q	1Q-4Q	
Operational Test OT-IIIA/B			3Q-4Q	1Q-3Q				
Operational Test OT-IIIC					3Q-4Q	1Q-2Q		
Operational Test OT-IIID							4Q	1Q-4Q
Low Rate Initial Production Award Lot IV	3Q							
Full Rate Production Award Lot V		1Q						
Full Rate Production Award Lot VI			1Q					
Full Rate Production Award Lot VII				1Q				
Full Rate Production Award Lot VIII					1Q			
Full Rate Production Award Lot IX						1Q		
Full Rate Production Award Lot X							1Q	
Full Rate Production Award Lot XI								1Q
Low-Rate Initial Production III Delivery	3Q - 4Q	1Q - 3Q						
Low-Rate Initial Production IV Delivery		3Q - 4Q	1Q - 3Q					
Full Rate Production Lot V Delivery			3Q - 4Q	1Q - 3Q				
Full Rate Production Lot VI Delivery				3Q - 4Q	1Q - 3Q			
Full Rate Production Lot VII Delivery					3Q - 4Q	1Q - 3Q		
Full Rate Production Lot VIII Delivery						3Q - 4Q	1Q - 3Q	
Full Rate Production Lot IX Delivery							3Q - 4Q	1Q - 3Q
Full Rate Production Lot X Delivery								3Q - 4Q
Full Rate Production Lot XI Delivery								

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

Instructions:

1. For all ACAT I programs with RDT&E funding, indicate the funds, by year, budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract, by year.

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0207163N AMRAAM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	8.714	9.001	3.584	6.726	2.659	3.543	3.318	3.401
0981 AMRAAM	8.714	9.001	3.584	6.726	2.659	3.543	3.318	3.401

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, pre-planned product improvement (P3I) efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM			PROJECT NUMBER AND NAME 0981 AMRAAM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	8.714	9.001	3.584	6.726	2.659	3.543	3.318	3.401
RDT&E Articles Qty								
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM	PROJECT NUMBER AND NAME 0981 AMRAAM	

(U) B. Accomplishments/Planned Program

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	6.435	5.935	1.496	1.520
RDT&E Articles Quantity				

Continue system engineering activities in AMRAAM P3I Phase 4 program which include conducting Proof of Manufacturing (POM) testing of Phase 4 system hardware, developing, coding, and testing P3I Phase 4 software, and integrating hardware and software into missile test articles for use in ground and initial captive carriage flight testing. In addition engineering efforts in FY2006 to include GPS/Advanced Data Link/Kinematics developments. Continue systems engineering/aircraft integration activities in AMRAAM P3I program with emphasis on Navy unique compatibility requirements and aircraft integration/compatibility requirements. Efforts in consonance with USAF funding of \$30.068 in FY04, \$33.266 in FY05, \$35.155 in FY06 and \$36.131 in FY07.

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	2.279	1.666	0.925	0.783
RDT&E Articles Quantity				

Continued engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	1.400	1.163	4.423
RDT&E Articles Quantity				

Continue aircraft integration activities and test and evaluation for Navy unique requirements.

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Exhibit R-2a, RDTEN Project Justification

(Exhibit R-2a, page 3 OF 9)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM	PROJECT NUMBER AND NAME 0981 AMRAAM																																																																								
C. PROGRAM CHANGE SUMMARY: <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left; width: 40%;">Funding:</th><th style="text-align: right; width: 15%;">FY 04</th><th style="text-align: right; width: 15%;">FY 05</th><th style="text-align: right; width: 15%;">FY 06</th><th style="text-align: right; width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Previous President's Budget:</td><td style="text-align: right;">8.973</td><td style="text-align: right;">9.085</td><td style="text-align: right;">3.556</td><td style="text-align: right;">6.602</td></tr><tr><td>Current President's Budget:</td><td style="text-align: right;">8.714</td><td style="text-align: right;">9.001</td><td style="text-align: right;">3.584</td><td style="text-align: right;">6.726</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">-0.259</td><td style="text-align: right; border-top: 1px solid black;">-0.084</td><td style="text-align: right; border-top: 1px solid black;">0.028</td><td style="text-align: right; border-top: 1px solid black;">0.124</td></tr><tr><td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td> Congressional program reductions</td><td></td><td></td><td></td><td></td></tr><tr><td> Congressional undistributed reductions</td><td></td><td style="text-align: right;">-0.082</td><td></td><td></td></tr><tr><td> Congressional rescissions</td><td></td><td></td><td></td><td></td></tr><tr><td> SBIR/STTR Transfer</td><td style="text-align: right;">-0.221</td><td></td><td></td><td></td></tr><tr><td> Other reductions</td><td></td><td style="text-align: right;">-0.002</td><td style="text-align: right;">-0.005</td><td style="text-align: right;">-0.006</td></tr><tr><td> Economic Assumptions</td><td></td><td></td><td style="text-align: right;">0.033</td><td style="text-align: right;">0.130</td></tr><tr><td> Reprogrammings</td><td style="text-align: right;">-0.038</td><td></td><td></td><td></td></tr><tr><td> Congressional increases</td><td></td><td></td><td></td><td></td></tr><tr><td> Subtotal</td><td style="text-align: right; border-top: 1px solid black;">-0.259</td><td style="text-align: right; border-top: 1px solid black;">-0.084</td><td style="text-align: right; border-top: 1px solid black;">0.028</td><td style="text-align: right; border-top: 1px solid black;">0.124</td></tr></tbody></table> <p>Schedule:</p> <p style="margin-left: 20px;">The AIM120C F/A-18 E/F IOC date moved to account for delayed start/completion of independent operational testing by COMOPTEVFOR/AFOTEC due to delays in securing OSD/DOT&E approval of Test & Evaluation Master Plan OT sections and test hardware. OT&E completion is a requirement for IOC recommendation by COMOPTEVFOR/N780.</p> <p style="margin-left: 20px;">The Free Flight DT testing has slipped one quarter due to delays in missile test hardware deliveries.</p> <p style="margin-left: 20px;">The SDD P3I Follow-on program has been renamed to the System Improvement Program (SIP) to reflect the spiral development nature of the improvements.</p> <p>Technical:</p> <p style="margin-left: 20px;">Not Applicable.</p>					Funding:	FY 04	FY 05	FY 06	FY 07	Previous President's Budget:	8.973	9.085	3.556	6.602	Current President's Budget:	8.714	9.001	3.584	6.726	Total Adjustments	-0.259	-0.084	0.028	0.124	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.082			Congressional rescissions					SBIR/STTR Transfer	-0.221				Other reductions		-0.002	-0.005	-0.006	Economic Assumptions			0.033	0.130	Reprogrammings	-0.038				Congressional increases					Subtotal	-0.259	-0.084	0.028	0.124
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM			PROJECT NUMBER AND NAME 0981 AMRAAM				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
WPN/P1#6 \$	36.920	28.803	81.507	98.764	86.465	85.017	86.876	88.984	1,370.874	3,145.395
Quantity	42	46	101	150	140	150	150	150	1,864	4,461
<u>Related RDT&E</u>										
PE 0207130F F-15										
PE 0204126N F/A-18 Squadrons										
PE 0207163F AMRAAM P3I										
PE 0207133F F-16										
PE 0604239F F-22										
PE 0207134F F-15E										
(U) E. ACQUISITION STRATEGY:										
<p>With the December 1997 merger of Raytheon and Hughes into the Raytheon Systems Company, the government implemented a new acquisition strategy labeled AMRAAM Vision 2000. The Vision 2000 strategy capitalizes on a Long Term Pricing Agreement (LTPA) agreement between Raytheon and the government under the auspices of the Department of Justice which supported the Raytheon/Hughes merger and a shift in government business practices toward a more "commercial" business arrangement. The lot 16 procurement contract award again includes an overarching price control strategy with Total System Performance Responsibility (TSPR) with the prime contractor, Raytheon Defense Systems Segment in Tucson, Arizona. The purchase includes missiles, warranties, spares, missile performance tracking, and reliability tests. Raytheon assumes responsibility for all specifications below missile performance.</p>										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROGRAM ELEMENT 0207163N AMRAAM				PROJECT NUMBER AND NAME 0981 AMRAAM				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPAF	Raytheon, Tucson AZ	35.373	4.067	01/05	1.093	01/06	0.514	01/07	2.708	43.755	43.755
Primary Hardware Development	WX	NAWC-AD Patuxent River MD		1.057	11/04	0.210	11/05	0.915	11/06	0.230	2.412	
Primary Hardware Development	WX	NAWC-WD Pt Mugu CA		0.072	11/04						0.072	
Primary Hardware Development	WX	NSWC Dahlgren VA		0.021	11/04						0.021	
Award Fees	SS/CPAF	Raytheon, Tucson AZ	4.740	0.718	11/04	0.193	11/05	0.091	11/06	0.478	6.220	6.220
Prior Years Development/Acft Integ	Various	Various	19.874								19.874	
Subtotal Product Development			59.987	5.935		1.496		1.520		3.416	72.354	
Remarks: Percentage of award fees actually awarded in past award fee periods is 15%.												
Development Support	SS/FFP	JHU/APL Laurel MD		0.210	01/05	0.200	01/06	0.150	01/07	0.870	1.430	1.430
Development Support	RX	NSMA VA		0.926	12/04	0.350	12/05	0.250	12/06	0.950	2.476	2.476
Development Support	WX	NAWC-WD Pt Mugu CA	11.366								11.366	
Subtotal Support			11.366	1.136		0.550		0.400		1.820	15.272	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0207163N AMRAAM			PROJECT NUMBER AND NAME 0981 AMRAAM						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC WD Pt Mugu CA	1.306	1.400	11/04	1.163	11/05	4.423	11/06	6.141	14.433	
Subtotal T&E			1.306	1.400		1.163		4.423		6.141	14.433	
Remarks:												
Program Management Support	PID/PR	NAWC AD Pax River MD	3.544	0.330	10/04	0.181	10/05	0.183	10/06	0.744	4.982	
Travel	MIPR	PMA-259 Eglin AFB FL	1.409	0.200	10/04	0.194	10/05	0.200	10/06	0.800	2.803	
Subtotal Management			4.953	0.530		0.375		0.383		1.544	7.785	
Remarks:												
Total Cost			77.612	9.001		3.584		6.726		12.921	109.844	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 9)

CLASSIFICATION:

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EXHIBIT R4, Schedule Profile																								DATE:								
February 2005																																
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-7								0207163N AMRAAM												0981 AMRAAM												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Pre-Planned Product Improvement (P3I) Phase 3																																
EMD Completion																																
Test Readiness Reviews																																
Development Test Flight Test																																
IOC C7																																
Phase 3 SWUP																																
Pre-Planned Product Improvement (P3I) Phase 4																																
SDD																																
SYSTEM DT/OT Start																																
IOC																																
Phase 4 SIP/SWUP																																
Production Milestones																																
Contract awards																																
Deliveries																																

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 Exhibit R-4, Schedule Profile
 (Exhibit R-4, page 8 of 9)

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 189

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /			BA 7		R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	\$155.3	\$463.5	\$542.0	\$795.9	\$804.3	\$660.7	\$351.5	\$129.4
0728 EHF SATCOM Terminals	\$56.7	\$49.7	\$50.8	\$84.4	\$91.2	\$105.4	\$55.4	\$17.3
0731 Fleet Satellite Comm	\$0.5	\$0.6	\$0.6	\$0.7	\$1.8	\$1.8	\$1.8	\$1.9
2472 Mobile User Objective System	\$84.4	\$389.4	\$470.0	\$688.3	\$632.0	\$486.1	\$220.0	\$53.6
9122 Advanced Wideband	\$12.0	\$18.0	\$20.5	\$22.4	\$79.4	\$67.4	\$74.2	\$56.6
9421 Joint Integrated Sys Tech for Adv Network Systems	\$0.0	\$4.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
9429 SPAWAR Covert Communications and Information Transfer	\$1.7	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Quantity of RDT&E Articles	10	2	2	21	5	16		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program (NESP) provides for the development and production of terminals to provide anti-jam, low probability of intercept/detection communications capability for Command and Control of the Fleet. NESP operates with Fleet Satellite (FLTSAT) EHF Packages (FEP), Ultra High Frequency (UHF) Follow On (UFO), and Milstar I/II Satellite Packages. The Milstar program is comprised of satellites, control stations, and aircraft, ship, and ground terminals to provide assured worldwide, secure, anti-jam, survivable communications for the National Command Authority, CINCs, and operational commanders.</p> <p>(U) The Advanced EHF (AEHF) Operational Requirements Document (ORD) was validated by the Joint Requirements Oversight Council (JROC) on 22 Mar 1999. AEHF is the follow-on satellite communications system that will provide worldwide, secure, survivable satellite communications to U.S. and International Partners strategic and tactical forces during all levels of conflict. The Navy AEHF Multiband Terminal (NMT) Program is the required Navy component to the Advanced EHF Program for enhancing protected and survivable satellite communications to Naval forces. The system provides an increase in single service capability from 1.5 Mbps to 8 Mbps, increases the number of coverage areas and retains A/J, LPI protection characteristics. It is compatible with today's Navy LDR/MDR terminals and will sustain the MILSATCOM architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The AEHF system will replenish and improve on the capabilities of the Milstar system and will equip the warfighters with the assured, jam resistant, secure communications as described in the ORD for the joint AEHF Satellite Communications System. The AEHF system will provide crosslinks within the constellation as well as between AEHF satellites and Milstar satellites in the backwards compatible mode. Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the AEHF ORD.</p>								

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CLASSIFICATION:		
EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA 7	R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide enabling technology necessary for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of SI/SCI data through a secure, controllable network interface with the ADNS architecture. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding support to their commanders, including situational awareness, indications and warning (I&W), enemy force intentions, intelligence preparation for the battlefield, and battle damage assessment (BDA). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of SI operations not achievable with current systems.</p> <p>(U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).</p> <p>(U) This RDT&E effort supports a USecAF approved IOC in 2010 and FOC in 2014. Two Component Advanced Development (CAD) contracts were awarded in Q4 FY 2002. The CAD contracts continued into FY 2004. A single Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 after Key Decision Point (KDP) B, also in September 2004. With KDP-B, MUOS was officially designated a Department of Defense Space Major Defense Acquisition Program. Also included is software development for UFO TT&C Terminal and advanced planning and engineering for the terminals in FY2007.</p> <p>(U) The Navy Advanced Wideband Integrated Terminal Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity reliable, low probability of intercept (LPI), Anti-Jam (AJ), communications capability to the Fleet. Terminals will support multiple data streams over Q/Ka-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals.</p> <p>(U) Covert Communications required for operational utilization.</p> <p>(U) The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was realigned to PEO C4I & Space from the United States Air Force starting in FY04 to meet the requirements and funding priorities established for the project.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under operational systems development because it encompasses engineering and manufacturing development for upgrade of existing operational systems.</p>		

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CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$56.672	\$49.659	\$50.834	\$84.425	\$91.159	\$105.383	\$55.392
RDT&E Articles Qty		8			20			
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program provides for the development and production of terminals to provide anti-jam (A/J), low probability of intercept (LPI)/detection communications capability for Command and Control of the fleet. The terminals will provide physical and electromagnetically survivable, worldwide communications in the current and projected electromagnetic and nuclear threat environments. Navy EHF terminals are interoperable with Army and Air Force terminals and will operate with Milstar as well as EHF packages on-board Ultra High Frequency (UHF) Follow-On (UFO) Satellites 4 through 11 and FLTSATCOM Satellites 7 and 8. The increased capability provided by EHF terminals is accomplished by use of the wider bandwidths available at extremely high frequencies, narrow antenna bandwidths, spread spectrum techniques, on-board satellite processing, and advanced signal processing technology. The EHF Medium Data Rate (MDR) upgrade program is complete and provides increased bandwidth by providing higher data rates [4.8 kilobits per second (Kbps) – 1.544 megabits per second (Mbps)] when communicating with Milstar II satellites.</p> <p>(U) The Navy EHF Communications Controller (NECC) provides automated, netted tactical data information exchange over jam resistant EHF Low Data Rate (LDR) satellite links. The NECC will provide for load and channel sharing, resource management, communications management and planning, network control and monitoring, and packet switching.</p> <p>(U) The EHF Time Division Multiple Access (TDMA) Interface Processor (TIP) will support wide area network (WAN) implementation through reliable, efficient, netted data exchange using MDR services. The MDR TIP combines support for general-purpose internet protocol (IP) data delivery and high speed, rapid delivery of tactical data within a single system architecture. TIP supports single-beam, multi-beam, and multi-satellite networks.</p> <p>(U) The Navy Super High Frequency (SHF) Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity, reliable, low probability of intercept (LPI), secure, and jam resistant communications to Joint and Allied Forces. SHF SATCOM operates with the Defense Satellite Communication System (DSCS), DSCS Service Life Extension Program (SLEP), and Wideband Gapfiller Satellite (WGS) System satellites. The SHF SATCOM system is comprised of satellites, ground stations, and aircraft, ship and ground terminals to provide assured worldwide access to services such as Defense Information Systems Network (DISN), Global Command and Control System (GCCS), Plain Old Telephone Service (POTS), Secure Telephone Unit III (STU III) Secure Communications Service, Internet Protocol Routed Networks, and other digital services. The satellite systems SHF SATCOM operate over are transitioning from old technology DSCS III satellites to the more advanced DSCS SLEP and WGS satellites beginning in FY 1999 and continuing through FY 2005. The population of Navy SHF SATCOM terminals is also growing at a rapid pace. In order to meet the communication requirements of Navy users, advanced communication technologies for SHF SATCOM terminals must be developed to take full advantage of the capabilities of the new satellites in an efficient manner.</p>								

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CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION (continued):</p> <p>(U) The Advanced EHF (AEHF) Operational Requirements Document (ORD) was validated by the Joint Requirements Oversight Council (JROC) on 22 Mar 1999. AEHF is the follow-on satellite communications system that will provide worldwide, secure, survivable satellite communications to U.S. and International Partners strategic and tactical forces during all levels of conflict. The Navy AEHF Multiband Terminal (NMT) Program is the required Navy component to the Advanced EHF Program for enhancing protected and survivable satellite communications to Naval forces. The system provides an increase in single service capability from 1.5 Mbps to 8 Mbps, increases the number of coverage areas and retains A/J, LPI protection characteristics. It is compatible with today's Navy LDR/MDR terminals and will sustain the MILSATCOM architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The AEHF system will replenish and improve on the capabilities of the Milstar system and will equip the warfighters with the assured, jam resistant, secure communications as described in the ORD for the joint AEHF Satellite Communications System. The AEHF system will provide crosslinks within the constellation as well as between AEHF satellites and Milstar satellites in the backwards compatible mode. Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the AEHF ORD. NMT Program consists of competitive prototype development, EDM development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program. In addition to the Q-Band protected communications capability, NMT multi-band communication capabilities will include shipboard terminal upgrade kits to communicate two way Ka-Band on Wideband Gapfiller Satellites (WGS) and shipboard and submarine terminals to communicate with X-Band using the Defense Satellite Communications System (DSCS) and WGS. NMT will be a transport layer enabler for FORCEnet.</p> <p>(U) The Challenge Athena Program required the following enhancements: (a) Satellite Doppler Buffer Fill Meter, which is a "gauge" on the GUI that indicates the current level of fill of the satellite Doppler buffer. The terminal operator was able to determine if the buffer is close to an overflow/underflow condition. With this indicator, he can then better plan when to re-center it without losing critical communications; (b) Channel Interleave Option for MIL-STD-188-165 Modes, that allowed the channel interleaver to be enabled without the additional bandspreading required for framing and Reed-Solomon FEC that provides handover and EMI protection; (c) Higher Data Rates increased the maximum provided data rate of the MD-1030B(V) 9 Modem to 4.096 Mbps with QPSK (Quadrature Phase Shift Keying) modulation. Higher available data rates in the MD-1030B(V)9 modem allowed the customer to achieve its near term throughput needs without putting up additional carriers; and (d) Shore Handover Error Burst. The MD-1030B(V)9 modem maintained its Bit Count Integrity (BCI) both at ship and shore based installations through shipboard antenna handover events. In addition, the MD-1030B(V)9 achieved virtual error free performance for ship's received data.</p> <p>(U) The INMARSAT program has a requirement for a follow-on terminal to increase throughput and compliment assured IP. FY06 RDT&E funds are required for representative production units design, development, fielding and testing.</p>		

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals																																
(U) B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/WSC-6 WGS Terminal Upgrades</td> <td style="text-align: center;">0.104</td> <td style="text-align: center;">0.650</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>(U) FY04: Completed Developmental testing of advanced modem system and terminal upgrades.</p> <p>(U) FY05: Operational testing of advanced modem system and terminal upgrades.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>NMT Development, First & Second Phases</td> <td style="text-align: center;">55.389</td> <td style="text-align: center;">48.259</td> <td style="text-align: center;">46.634</td> <td style="text-align: center;">84.425</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">8</td> <td></td> <td></td> <td style="text-align: center;">20</td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>(U) First and second phases of NMT development for System Design and Development (SDD) for ship, shore and submarine platforms.</p> <p>(U) FY04: Completed development of satellite simulators. Awarded contract for development of NMT prototype terminal hardware and software. Hardware includes operator interface, Terminal Control Processor, Modem Control Processor, Antenna Pointing Unit and associated firmware. Software includes access control protocols, terminal Built In Testing (BIT)/BITE Adaptation Data Recorder, and Low Probability of Interception (LPI) power control software. Continued development of high-level test plan. Began design and development of 8 NMT prototypes (four ship, two sub, two shore). Incorporate Software Communications Architecture (SCA).</p> <p>(U) FY05: Continue NMT prototype terminal hardware and software development and development of high-level test plan. Continue hardware and software design and development of 8 SCA compliant NMT prototypes started in FY04.</p> <p>(U) FY06: Continue NMT SDD prototype terminal hardware and software development and development of high-level test plan. Continue hardware and software design and development of 8 SCA compliant NMT prototypes started in FY04.</p> <p>(U) FY07: Complete terminal hardware and software development for 8 SCA compliant NMT prototypes began in FY04. Test over the air NMT prototypes and conduct NMT vendor down-select. Commence design and development of 20 Q/Ka capable EDMs and added X-band for submarine platforms. EDM test sets are required at the following sites: one set at contractor facilities for testing, one set shared between east/west coast government facilities for program and joint interoperability testing, and one set for operational assessment on platforms. Each set is composed of two ship, one sub, and one shore terminal configurations. In addition eight EDMs are planned as 1st of class platform installations for unique platform environmental testing and production phase risk reduction.</p> </div>						FY 04	FY 05	FY 06	FY 07	AN/WSC-6 WGS Terminal Upgrades	0.104	0.650	0.000	0.000	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	NMT Development, First & Second Phases	55.389	48.259	46.634	84.425	RDT&E Articles Quantity	8			20
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals																														
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	FY 04	FY 05	FY 06	FY 07																												
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R-1 SHOPPING LIST - Item No. 193																																

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY05 President's Budget	57.774	50.345	79.663	67.244
FY06 PB Submit	56.672	49.659	50.834	84.425
Total Adjustments	-1.102	-0.686	-28.829	17.181
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.676		
Reprogrammings	-0.268	-0.010		
Programmatic Adjustments			-29.416	16.183
Economic Assumptions			0.745	1.104
Pricing Adjustments			-0.158	-0.106
SBIR/STTR Transfers	-0.834			
Subtotal	-1.102	-0.686	-28.829	17.181

(U) Schedule:

SDD contract awarded 10/03. Required Acquisition Strategy Report (ASR) was approved June 2002, and the ASR Update was approved July 2003.

Schedule Current Estimate reflects the incorporation of Software Communications Architecture (SCA) into the program baseline per NMT Acquisition Decision Memorandum. Additional SCA scope and cost incorporated into the program baseline within FY04-FY07 funding profile necessitated a 7-month program slip.

Programmatic changes in the AEHF satellite program resulted in a 6-month extension of the NMT prototype phase.

(U) Technical:

Not applicable.

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals				

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
321500 - OPN Ship and Shore*	74.798	38.745	21.106	-	-	19.158	91.159	158.922	Continuing	Continuing

*Includes NESP terminal installation costs.
(U) Related RDT&E:
(U) PE 0303603F, Milstar
(U) PE 0303601F, Air Force Satellite Communications

(U) E. ACQUISITION STRATEGY:

(U) Navy Multiband Terminal (NMT) Concept Exploration contracts were awarded in FY01. Two System Development and Demonstration (SDD) contracts were competitively awarded in FY 2004 for the development and demonstration of four prototype terminals per vendor (eight total). In FY 2007, a downselect to one vendor will occur for the development, demonstration and procurement of twenty Engineering Developmental Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka band communication requirements.

(U) F. MAJOR PERFORMERS:

Harris Corp., Melbourne, FL - NMT SDD Vendor; contract awarded Oct. 03
Raytheon, Marlborough, MA - NMT SDD Vendor; contract awarded Oct. 03
Naval Undersea Warfare Center (NUWC), Newport, RI - NMT Technical Director; annual WX document

(U) G. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDTE&E, N / BA-7			0303109N Satellite Communications (Space)				0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	CPAF	Various	58.436	41.577	10/04	40.101	11/05	77.225	10/06	Continuing	Continuing	
Hardware Development	C/FFP	Harris (Melbourne, FL)	5.901	0.650	10/04					Continuing	Continuing	
Hardware Development	WR	SSC SD (San Diego, CA)	1.077	0.278	10/04	0.202	10/05	0.210	10/06	Continuing	Continuing	
Hardware Development	TBD	TBD				3.224	11/05					
Ancillary Hardware Development	CPAF	Raytheon (Marlborough, MA)	57.790									
Software Development	WR	NUWC (Newport, RI)	8.017	0.750	10/04	0.500	10/05			Continuing	Continuing	
Systems Engineering	WR	SSC SD (San Diego, CA)	14.169	0.237	10/04	0.244	10/05	0.251	10/06	Continuing	Continuing	
Systems Engineering	WR	NUWC (Newport, RI)	4.974	1.791	10/04	1.686	10/05	1.794	10/06	Continuing	Continuing	
Systems Engineering	Various	Various	9.852	0.499	10/04	0.723	11/05	0.743	10/06	Continuing	Continuing	
GFE	Various	Various	8.158	1.500	10/04					Continuing	Continuing	
Subtotal Product Development			168.374	47.282		46.680		80.223		Continuing	Continuing	
Remarks:												
Development Support	WR	SSC SD (San Diego, CA)	7.504	0.247	10/04	0.254	10/05	0.261	10/06	Continuing	Continuing	
Integrated Logistics Support	T&M	Various	0.586	0.252	10/04	0.363	10/05	0.373	10/06	Continuing	Continuing	
Studies & Analysis	WR	Various	5.536									
Subtotal Support			13.626	0.499		0.617		0.634		Continuing	Continuing	
Remarks:												

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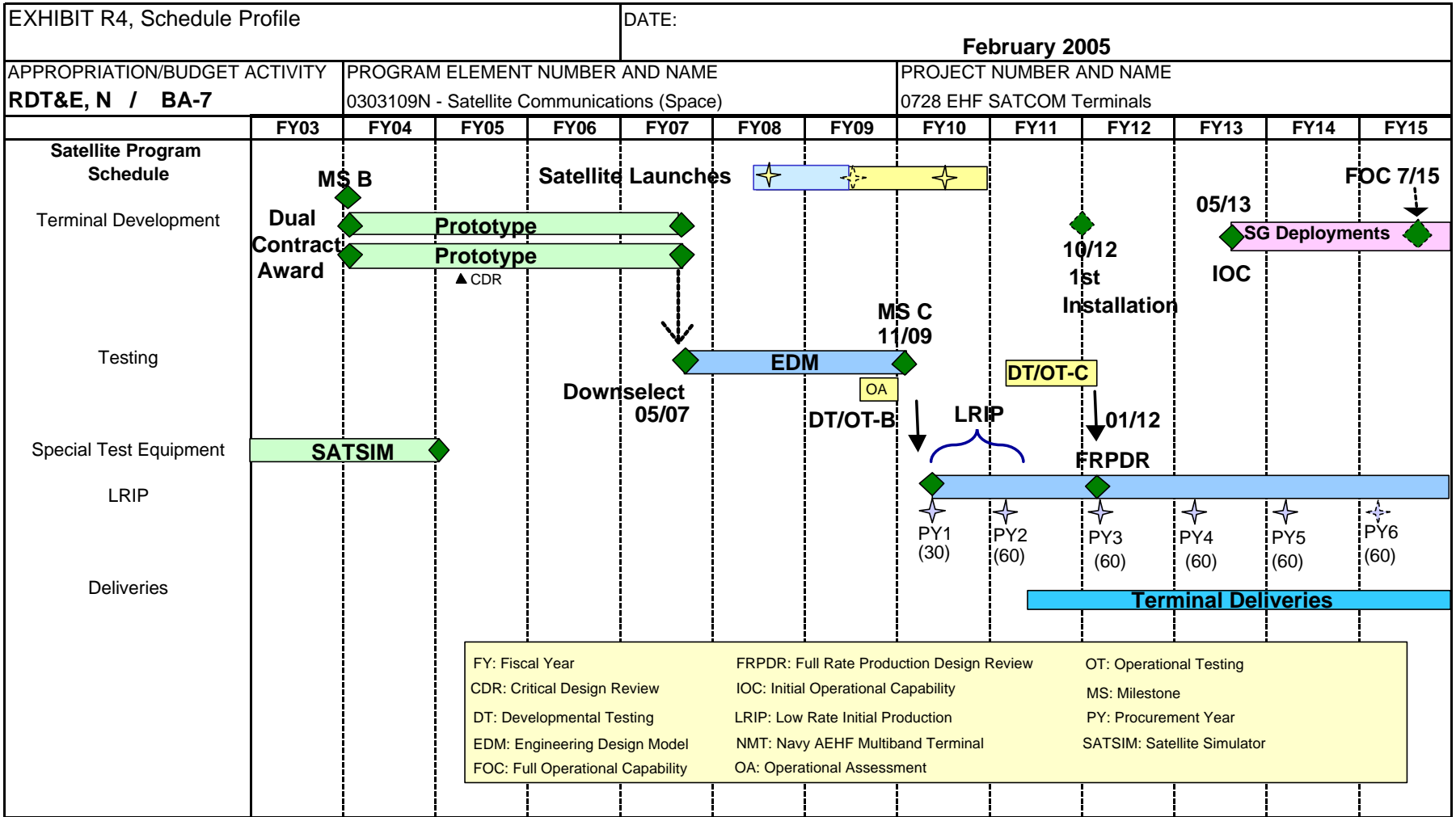
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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RD T&E, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various	10.130	0.008	10/04	1.319	10/05	1.294	10/06	Continuing	Continuing	
Operational Test & Evaluation	WR	Various	0.556							Continuing	Continuing	
Subtotal T&E			10.686	0.008		1.319		1.294		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	CPAF	Various	2.480	0.741	10/04	0.779	10/05	0.796	10/06	Continuing	Continuing	
Program Management Support	Various	Various	2.047	1.029	10/04	1.318	10/05	1.355	10/06	Continuing	Continuing	
Travel		Gov't Travel	0.105	0.100	10/04	0.120	10/05	0.123	10/06			
Subtotal Management			4.632	1.870		2.218		2.274		Continuing	Continuing	
Remarks:												
Total Cost			197.518	49.659		50.834		84.425		Continuing	Continuing	
Remarks:												

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Note:

Reflects development of 20 EDMs

Production Quantity includes SCN platforms

CLASSIFICATION:

[illegible]

NOTE 1: Operations Testing (MS C) is scheduled for 2Q FY12.
NOTE 2: Initial Operational Capability (IOC) is schedule for 3Q FY13.
NOTE 3: Full Operational Capability is scheduled for 3Q FY15.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.524	0.605	0.631	0.699	1.773	1.794	1.819
RDT&E Articles Qty		2	2	2				
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide enabling technology necessary for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of SI/SCI data through a secure, controllable network interface with the ADNS architecture. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding support to their commanders, including situational awareness, indications and warning (I&W), enemy force intentions, intelligence preparation for the battlefield, and battle damage assessment (BDA). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of SI operations not achievable with current systems.</p>								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
SCI Networks	0.524	0.605	0.631	0.699
RDT&E Articles Quantity	2	2	2	
<p>FY04: Continued integration and implementation of SCI Networks and associated Special Intelligence Communication capabilities. Development and integration of COMPOSE 3.0, SCI Networks Surface Suite (AN/USQ-148D(V)2), and IPv6 capabilities. Complete lab testing of submarine and BCA variants</p> <p>FY05: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Conduct developmental and operational testing of software and hardware for sub, surface, and shore. Development, integration, and testing of AN/USQ-148E(V)2 surface suites and COMPOSE 3.X. software. Continue development and integration of IPv6 capabilities.</p> <p>FY06: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. DT AN/USQ-148D(V)2 and development and integration of COMPOSE 3.X software. IPv6 integration and laboratory testing.</p> <p>FY07: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. DT of AN/USQ-148(V)4. OT of AN/USQ-148D(V)2 and AN/USQ-148(V)4. IPv6 integration and shipboard testing efforts. Integration and testing of VoIP and Video IP.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 05 President's Budget:</td> <td style="text-align: right;">0.578</td> <td style="text-align: right;">0.644</td> <td style="text-align: right;">1.493</td> <td style="text-align: right;">1.775</td> </tr> <tr> <td>FY 06 President's Budget:</td> <td style="text-align: right;">0.524</td> <td style="text-align: right;">0.605</td> <td style="text-align: right;">0.631</td> <td style="text-align: right;">0.699</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.054</td> <td style="text-align: right; border-top: 1px solid black;">-0.039</td> <td style="text-align: right; border-top: 1px solid black;">-0.862</td> <td style="text-align: right; border-top: 1px solid black;">-1.076</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.039</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-0.038</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.843</td> <td style="text-align: right;">-1.055</td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.002</td> <td style="text-align: right;">0.003</td> </tr> <tr> <td style="padding-left: 20px;">Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.021</td> <td style="text-align: right;">-0.024</td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfers</td> <td style="text-align: right;">-0.016</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.054</td> <td style="text-align: right; border-top: 1px solid black;">-0.039</td> <td style="text-align: right; border-top: 1px solid black;">-0.862</td> <td style="text-align: right; border-top: 1px solid black;">-1.076</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p>Technical issues with the interfacing system (ADNS), as well as submarine availabilities have delayed the DT/OT events (DT IID/OT IIB) for the SCI Networks submarine variant. Additional software certification security accreditation and testing to accommodate hosted systems will be accomplished in FY04. DT/OT is now scheduled for FY05 Q2 and Q4. Submarine/BCA Lab DT completed in FY04 Q2. Relabeled all Test & Evaluation milestones (DT IID, OT IIB, DT IIB, DT IIIC & OT IIIA) to provide more schedule clarity and break out testing of 148D and 148E SCI Networks variants. 148E development accelerated to support an interfacing system that requires 148E services. Identified 4.X and 5.X software delivery and Test & Evaluation milestones in the out years.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p>Not applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 05 President's Budget:	0.578	0.644	1.493	1.775	FY 06 President's Budget:	0.524	0.605	0.631	0.699	Total Adjustments	-0.054	-0.039	-0.862	-1.076	Summary of Adjustments					Congressional Adjustments					Congressional Recissions		-0.039			Reprogrammings	-0.038				Programmatic Adjustments			-0.843	-1.055	Economic Assumptions			0.002	0.003	Pricing Adjustments			-0.021	-0.024	SBIR/STTR Transfers	-0.016				Subtotal	-0.054	-0.039	-0.862	-1.076
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EXHIBIT R-2a, RDT&E Project Justification							DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
3050 COMM AUTO - SCI Networks	6.638	0.814	4.468	4.556	4.708	4.875	4.975	5.088	Cont	Cont
(U) E. ACQUISITION STRATEGY: *										
SCI Network variants are comprised of Commercial Off the Shelf equipments and Government Off the Shelf software integrated into SCI Networks designs associated with class of ship. Next Generation versions are being considered for acquisition via the LM Q-70 contract vehicle.										
(U) F. Major Performers:										
SPAWAR Systems Center, San Diego (SSC SD) provides research and development for next generation SCI Networks.										
* Not required for Budget Activities 1,2,3, and 6										

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 16 of 48)

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDTE, N / BA-7			0303109N Satellite Communications (Space)				0731 Fleet Satellite Comm					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Var	Var	21.359	0.605	12/04	0.631	12/05	0.699	12/06	Continuing	Continuing	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			21.359	0.605		0.631		0.699		0.000	23.294	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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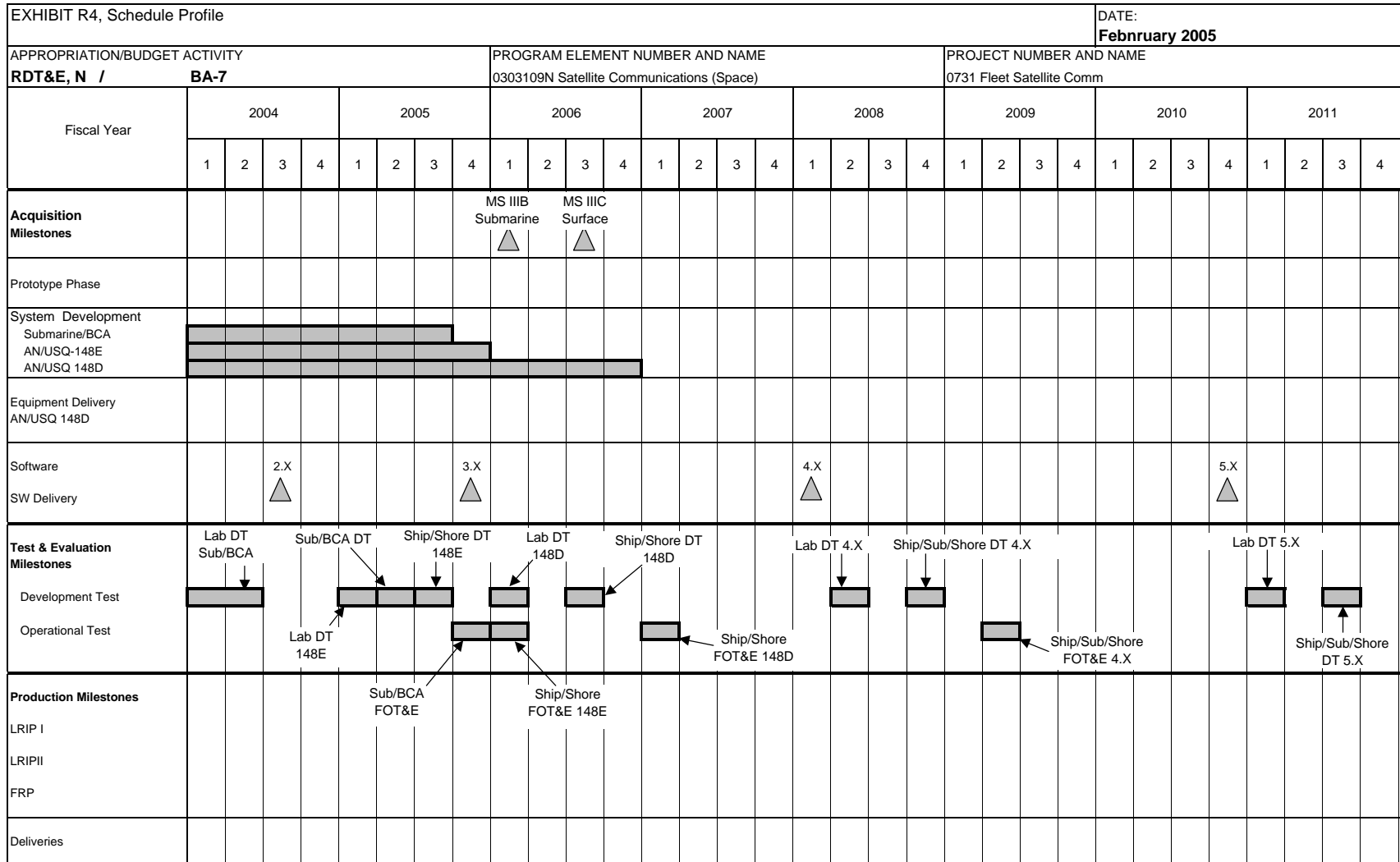
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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			21.359	0.605		0.631		0.699		0.000	23.294	0.000
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$84.433	\$389.408	\$469.999	\$688.307	\$631.970	\$486.081	\$220.039
RDT&E Articles Qty					1	1		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).</p> <p>(U) This RDT&E effort supports a USecAF approved IOC in 2010 and FOC in 2014. Two Component Advanced Development (CAD) contracts were awarded in Q4 FY 2002. The CAD contracts continued into FY 2004. A single Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 after Key Decision Point (KDP) B, also in September 2004. With KDP-B, MUOS was officially designated a Department of Defense Space Major Defense Acquisition Program. Also included is software development for UFO TT&C Terminal and advanced planning and engineering for the terminals in FY2007.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 2472 Mobile User Objective System		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	84.433	389.408	469.999	688.307
RDT&E Articles Quantity				1
<p>(U) FY04: Completed MUOS CAD contracts and associated system engineering tasks. Also includes forward funding of 48M for FY05 RRDD contract.</p> <p>(U) FY05: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Also includes forward funding of 95.3M for FY06 RRDD contract.</p> <p>(U) FY06: Continue funding for MUOS RRDD contract and associated system engineering tasks.</p> <p>(U) FY07: Continue funding for MUOS RRDD contract and start manufacturing MUOS 1 including associated system engineering tasks. Also includes software development for UFO TT&C Terminal and advanced planning and engineering for the terminals.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 2472 Mobile User Objective System																																																																			
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">(U) Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President Budget</td> <td style="text-align: right;">195.019</td> <td style="text-align: right;">503.651</td> <td style="text-align: right;">621.268</td> <td style="text-align: right;">661.558</td> </tr> <tr> <td>FY06 President Budget</td> <td style="text-align: right;">84.433</td> <td style="text-align: right;">389.408</td> <td style="text-align: right;">469.999</td> <td style="text-align: right;">688.307</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-110.586</td> <td style="text-align: right; border-top: 1px solid black;">-114.243</td> <td style="text-align: right; border-top: 1px solid black;">-151.269</td> <td style="text-align: right; border-top: 1px solid black;">26.749</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Adjustments</td> <td></td> <td style="text-align: right;">-110.000</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Recissions</td> <td style="text-align: right;">-0.181</td> <td style="text-align: right;">-4.172</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-104.896</td> <td style="text-align: right;">-0.071</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-156.379</td> <td style="text-align: right;">18.267</td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">5.105</td> <td style="text-align: right;">8.454</td> </tr> <tr> <td style="padding-left: 20px;">Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">0.005</td> <td style="text-align: right;">0.028</td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfers</td> <td style="text-align: right;">-5.509</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-110.586</td> <td style="text-align: right; border-top: 1px solid black;">-114.243</td> <td style="text-align: right; border-top: 1px solid black;">-151.269</td> <td style="text-align: right; border-top: 1px solid black;">26.749</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) Schedule:</p> <p style="margin-top: 40px;">(U) Technical:</p> <p style="margin-left: 40px;">N/A</p>					(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President Budget	195.019	503.651	621.268	661.558	FY06 President Budget	84.433	389.408	469.999	688.307	Total Adjustments	-110.586	-114.243	-151.269	26.749	Summary of Adjustments					Congressional Adjustments		-110.000			Congressional Recissions	-0.181	-4.172			Reprogrammings	-104.896	-0.071			Programmatic Adjustments			-156.379	18.267	Economic Assumptions			5.105	8.454	Pricing Adjustments			0.005	0.028	SBIR/STTR Transfers	-5.509				Subtotal	-110.586	-114.243	-151.269	26.749
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 2472 Mobile User Objective System			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
2433 Mobile User Objective System					160.463	532.968	524.237	483.392	896.200	2,597.260

(U) E. ACQUISITION STRATEGY: *

Concept Exploration contracts were awarded in early FY 2000 and completed in late FY 2001. Two Component Advancement Development (CAD) contracts were awarded in Q4 FY 2002. A RRDD contract was awarded in September 2004 for the first two satellites, system engineering and associated ground infrastructure. WPN funds the remaining four satellites and launch services for all six satellites.

Updates to the ground UFO TT&C terminals that support UFO on-orbit operations are included \$13.2M in FY08 and \$2M FY09.

(U) F. MAJOR PERFORMERS:

Lockheed Martin

(U) G. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

* Not required for Budget Activities 1,2,3, and 6

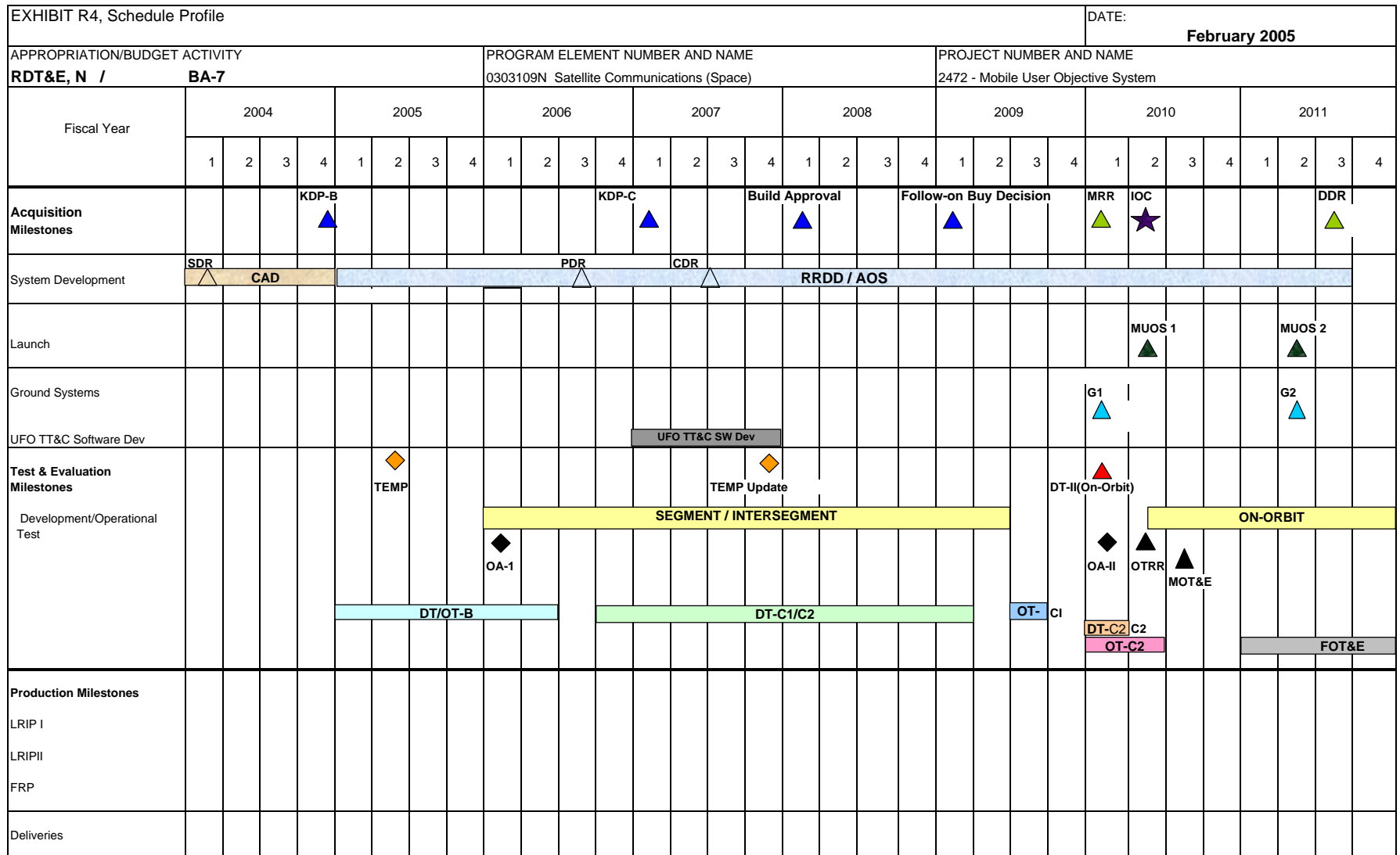
CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	CPAF/FP	LM	48.000	353.080	1Q	433.639	1Q	625.668	1Q	1,196.493	2,656.880	2656.880
CE Contracts & Demos	FFP	Boeing/LM/Ratheon/Spec	21.320								21.320	21.320
		Spectrum Astro										
CAD Contracts	FFP	LM/Ratheon	105.154								105.154	105.154
AoA for MUOS	MIPR	Aerospace	2.782								2.782	2.782
Government Studies	VAR		0.711								0.711	
Crypto Procurement	MIPR	NSA	1.520								1.520	1.520
AOS Contract												
Subtotal Product Development			179.487	353.080		433.639		625.668		1,196.493	2,788.367	2787.656
Remarks:												
Development Support											0.000	
Software Development for UFO TT&C								10.500	1Q		10.500	
Integrated Logistics Support			0.500								0.500	
Ground Site Engineering	MIPR	TBD		3.500	1Q	3.500	1Q	3.500	1Q	10.500	21.000	
Leased Lines										23.500	23.500	
Studies & Analyses (EELV)				0.400	1Q	0.800	1Q	16.600		2.000	19.800	
GFE											0.000	
Award Fees												
Subtotal Support			0.500	3.900		4.300		30.600		36.000	75.300	
Remarks:												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR		0.182	0.840	1Q	0.914	1Q	0.824	1Q	3.688	6.448	
Operational Test & Evaluation	MIPR			0.588	1Q	0.646	1Q	0.715	1Q	4.019	5.968	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.182	1.428		1.560		1.539		7.707	12.416	
Remarks:												
Contractor Engineering Support	PMTO/MIP	VAR	32.301	18.000	1Q	18.000	1Q	18.000	1Q	210.000	296.301	
Government Engineering Support	WX/MIPR	VAR	4.436	5.000	1Q	5.000	1Q	5.000	1Q	62.000	81.436	
Program Management Support	PMTO/MSA	VAR	1.750	7.000	1Q	7.000	1Q	7.000	1Q	35.000	57.750	
Travel	WX		0.295	0.500	1Q	0.500		0.500		10.000	11.795	
ITU IRIS Filing Fee			0.635	0.500							1.135	
Other Support												
Subtotal Management			39.417	31.000		30.500		30.500		317.000	448.417	
Remarks:												
Total Cost			219.586	389.408		469.999		688.307		1,557.200	3,324.500	
Remarks:												

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[CDR]

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-7	0303109N Satellite Communications (Space)				2472 Mobile User Objective System			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
System Design Review (SDR)	1Q							
Component Advanced Development (CAD)	1Q-4Q							
Key Decision Point B	4Q							
Risk Reduction and Design Development (RRDD)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
DT-B/OT-B		1Q-4Q	1Q-2Q					
Test and Evaluation Master Plan (TEMP)		2Q		4Q				
Operational Assessment (OA-1)			1Q					
Preliminary Design Review (PDR)			3Q					
Key Decision Point C				1Q				
DT-C1			3Q-4Q	1Q-4Q	1Q-4Q			
OT-C1						3Q		
Critical Design Review (CDR)				3Q				
Build Approval					1Q			
Acquisition & Operations Support (AOS)				3Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Follow-On Buy Decision						1Q		
Segment/Intersegment Testing			1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
Ground System (1)							1Q	
DT-C2							1Q	
OT-C2							1Q-2Q	
Developmental Testing (DT-11A) (On Orbit)							1Q	
Mission Readiness Review (MRR)							1Q	
Operational Assessment (OA-11)							1Q	
IOC							2Q	
Launch 1 (M1)							2Q	
On-Orbit Testing							2Q-4Q	1Q-4Q
Operational Test Readiness Review (OTRR) for MOT&E							2Q	
Ground System (2)								2Q
Multi-Service Operational Testing & Evaluation (MOT&E)							3Q	
Deployment Decision Review (DDR)								3Q
Launch 2 (M2)								2Q
Follow-On Test Evaluation (FOT&E)								1Q-4Q
UFO TT&C Terminal Software Development				1Q-4Q				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$11.982	\$17.972	\$20.516	\$22.424	\$79.392	\$67.396	\$74.210
RDT&E Articles Qty						4	16	
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Navy Transformational Communications Integrated Terminal Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity reliable, low probability of intercept (LPI), Anti-Jam (AJ), communications capability to the fleet. Terminals will support multiple data streams over Q-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals. Development will focus on a LAN to Antenna capability, including quality of service required for Navy unique missions. AWS/TC Program draft acquisition strategy consists of terminal suite development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program.</p>								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
AWS/TC Concept Development	11.982	17.972	20.516	22.424
RDT&E Articles Quantity				

(U) **FY04:** Continued concept exploration systems engineering and analysis. Began building and testing prototype systems components including the multiband feed assemblies, multiband Radio Frequency (RF) equipment, multiband antenna radome for Radar Cross Section reduction and RF transmissibility. FY 2004 goals are to validate component designs for migration to system level inclusion.

(U) **FY05:** Migrate component prototypes tested in FY 2004 into a terminal level design. Begin system level engineering process to determine optimal tradeoffs between cost and performance. Build prototypes of terminal level components (multi band antenna system, multi-band IF and RF generation systems).

(U) **FY06:** Continue system level engineering process to determine optimal tradeoffs between cost and performance. Continue building prototypes of terminal level components (multi band antenna system, multi-band IF and RF generation systems).

(U) **FY07:** Award System Design & Development (SDD) contract(s); commence development of terminal suite components to include network modifications, routers, information assurance, and the SATCOM terminal, addressing networking, link and physical layers required to communicate with Transformational Communications MILSATCOM (TCM) System. Develop high-level test plan and continue systems engineering activities.

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APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	12.564	18.452	62.702	104.263
FY06 President's Budget	11.982	17.972	20.516	22.424
Total Adjustments	-0.582	-0.480	-42.186	-81.839

Summary of Adjustments

Congressional Adjustments				
Congressional Recissions		-0.480		
Reprogrammings	-0.239			
Programmatic Adjustments			-42.640	-83.028
Economic Assumptions			0.567	1.261
Pricing Adjustments			-0.113	-0.072
SBIR/STTR Transfers	-0.343			
Subtotal	-0.582	-0.480	-42.186	-81.839

(U) Schedule:

Acquisition Strategy development and refinement began in FY04. Milestone B is currently projected in FY06. A draft schedule is provided in R4 exhibit. Changes in draft schedule are driven by space segment schedule changes and modifications to draft acquisition strategy. Previously planned prototype and EDM development schedules were combined into a Terminal Suite Development phase.

(U) Technical:

Not Applicable.

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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME																									
RDT&E, N / BA-7			0303109N Satellite Communications (Space)			9122 Advanced Wideband System / Transformational Communications																									
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<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																					
321500 - OPN Ship and Shore*	N/A	N/A	N/A	N/A	N/A	23.913	91.374	174.774	Continuing	Continuing																					

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various	11.774	11.890	11/04	15.241	10/05	16.618	10/06	Continuing	Continuing	
Ancillary Hardware Development												
Systems Engineering	Various	Various	1.359	1.374	10/04	1.758	10/05	1.804	10/06	Continuing	Continuing	
Systems Engineering	WR	NUWC	0.895	0.885	10/04	0.985	10/05	0.993	10/06	Continuing	Continuing	
Subtotal Product Development			14.028	14.149		17.984		19.415		Continuing	Continuing	
Remarks:												
Development Support	WR	SSC SD	0.860	1.191	10/04	1.223	10/05	1.324	10/06	Continuing	Continuing	
Integrated Logistics Support							10/05	0.232	10/06		0.000	
Studies & Analyses	Various	Various	2.275	1.603	10/04	0.242	10/05	0.272	10/06	Continuing	Continuing	
Subtotal Support			3.135	2.794		1.465		1.828		Continuing	Continuing	
Remarks:												

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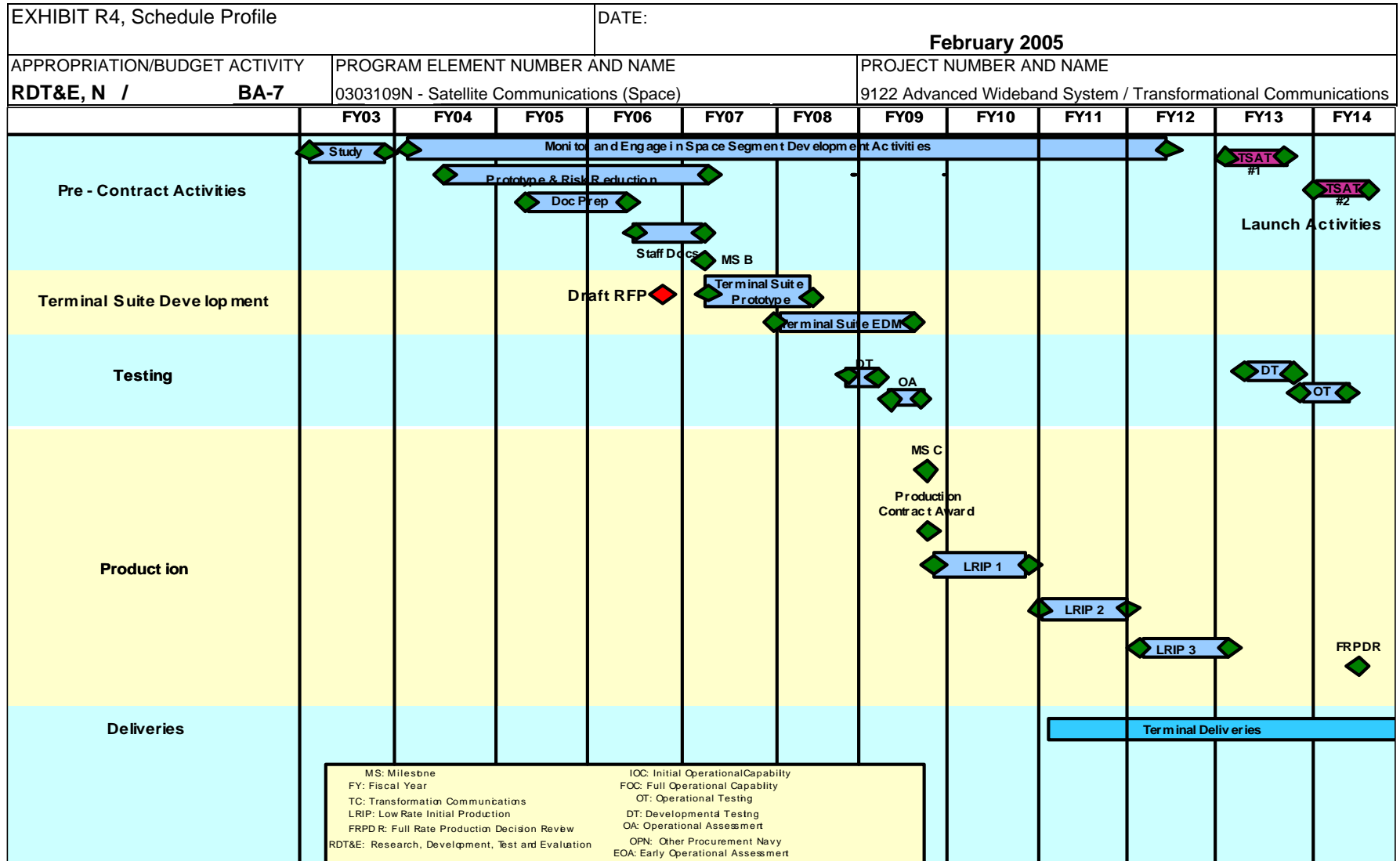
CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Development Support											0.000	
Program Management Support	Various	Various	0.446	0.954	10/04	0.970	10/05	1.069	10/06	Continuing	Continuing	
Studies & Analyses											0.000	
Travel			0.047	0.075	10/04	0.097	10/05	0.112	10/06		0.331	
Subtotal Management			0.493	1.029		1.067		1.181		Continuing	Continuing	
Remarks:												
Total Cost			17.656	17.972		20.516		22.424		Continuing	Continuing	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7		0303109N - Satellite Communications (Space)				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.000	4.844	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was realigned to PEO C4I & Space from the United States Air Force starting in FY04 to meet the requirements and funding priorities established for the project.</p> <p>Conduct JIST-NET software development and engineering analysis operations. Program is currently in the system and software engineering phase. The project will have the necessary system and software engineering to PEO C4I & Space, PMW 170 team define requirements and interface/integrate existing and newly developed SATCOM mission management capabilities into the JIST-NET project. The contractor will update the JIST-NET Software Design for the next JIST-NET prototype using the results of the Software Requirements Analyses. The Software Design Update will build upon the current JIST-NET V1S3 prototype software. The contractor will design, implement, and test the next JIST-NET prototype. Also, comprehensive studies of the actual usage of satellite resources in a given Area Of Responsibility (AOR) for a specified period of time will be done. Support will include all requirements analysis and development and interface definition support. The project team will provide all the necessary tools, software, documentation, and support necessary to accomplish the required analysis and integration. The long-term goal is to provide dynamic real time or near real time apportionment, allocation and adjudication of satellite resources for the warfighters based on priorities and requirements as assigned by the Operational Commanders.</p>								

R-1 SHOPPING LIST - Item No. 193

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																														
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)																														
(U) B. Accomplishments/Planned Program																																
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Software Development / Systems Engineering</td><td style="text-align: center;">0.000</td><td style="text-align: center;">4.844</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"><p>(U) FY04: N/A</p><p>(U) FY05: Conduct JIST-NET software development and engineering analysis operations with deliverable outputs for FY05</p><p>.</p><p>(U) FY06: N/A</p><p>(U) FY07: N/A</p></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>				FY 04	FY 05	FY 06	FY 07	Software Development / Systems Engineering	0.000	4.844	0.000	0.000	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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R-1 SHOPPING LIST - Item No.193

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY05 President's Budget	0.000	0.000	0.000	0.000
FY06 President's Budget	0.000	4.844	0.000	0.000
Total Adjustments	0.000	4.844	0.000	0.000
Summary of Adjustments				
Congressional Increase		4.900		
Congressional Rescissions		-0.056		
Subtotal				
	0.000	4.844	0.000	0.000

(U) Schedule:
Not Applicable.

(U) Technical:
Not Applicable.

R-1 SHOPPING LIST - Item No. 193

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification										DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)				
(U) D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
0204163N - RDT&E FLEET COMMUNICATIONS	6.742	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Continuing	Continuing	
 (U) E. ACQUISITION STRATEGY:											
 (U) F. MAJOR PERFORMERS:											
NUWC (Newport, RI)											
SSC CH (Charleston, SC)											
(U) G. METRICS:											

R-1 SHOPPING LIST - Item No. 193

UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N - Satellite Communications (Space)			PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	Various	Various	0.000	1.694	01/05					0.000	1.694	
Software Development	Various	Various	0.000	1.932	01/05					0.000	1.932	
Subtotal Product Development			0.000	3.627		0.000		0.000		0.000	3.627	
Remarks:												
Studies & Analyses	Various	Various	0.000	0.847	01/05							
Subtotal Support			0.000	0.847		0.000		0.000		0.000	0.847	
Remarks:												

R-1 SHOPPING LIST - Item No. 193

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N - Satellite Communications (Space)			PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC CH (Charleston, SC)	0.000	0.150	11/04					0.000	0.150	
Subtotal T&E			0.000	0.150		0.000		0.000		0.000	0.150	
Remarks:												
Program Management Support	Various	Various	0.000	0.220	01/05					0.000	0.220	
Subtotal Management			0.000	0.220		0.000		0.000		0.000	0.220	
Remarks:												
Total Cost			0.000	4.844		0.000		0.000		0.000	4.844	
Remarks:												

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UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communiations (Space)				PROJECT NUMBER AND NAME X9429 SPAWAR Covert Communication and Information Transfer			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.728	0.988	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Covert Communications required for operational utilization.									

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																																													
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R-1 SHOPPING LIST - Item No. 193

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
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R-1 SHOPPING LIST - Item No. 193

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
							February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-7			0303109N Satellite Communications (Space)			X9429 SPAWAR Covert Communication and Information Transfer				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
N/A										
(U) E. ACQUISITION STRATEGY: *										
Not Applicable										
* Not required for Budget Activities 1,2,3, and 6										

R-1 SHOPPING LIST - Item No. 193

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 46 of 48)

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				X9429 SPAWAR Covert Communication and Information Transfer					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Systems Engineering	WX	SSC-CH	0.328	0.164							0.492	
Systems Engineering	RC	NSMA/AMTI	1.400	0.824							2.224	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.728	0.988		0.000		0.000		0.000	2.716	
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME X9429 SPAWAR Covert Communication and Information Transfer					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Development Support											0.000	
Program Management Support											0.000	
Studies & Analyses											0.000	
Travel											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			1.728	0.988		0.000		0.000		0.000	2.716	
Remarks:												

R-1 SHOPPING LIST - Item No. 193

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0303140N Information Systems Security Program (ISSP)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	25.769	26.511	28.660	33.490	34.071	34.299	33.052	34.363
0734 Information Systems Security	16.469	16.526	26.555	31.434	31.829	32.100	30.801	32.060
0734 Communications Security	2.271	1.973	2.105	2.056	2.242	2.199	2.251	2.303
9281 Intelligent Agent Security Module	5.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9430 SECURE Kit	1.729	4.547	0.000	0.000	0.000	0.000	0.000	0.000
9647 Collaborative Information Warfare Network	0.000	3.465	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>(U) The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of Navy and Joint information, telecommunications, and information systems from hostile exploitation and attack. The ISSP is the Navy's implementation of statutory and regulatory requirements specified in Presidential Decision Directive 63, the Computer Security Act of 1987 (Public Law 100 235), Appendix III of Office of Management and Budget (OMB) Circular A-130, and DOD Directive 8500.1. ISSP activities address the triad of Defensive Information Operations defined in Joint Publication 3-13; protection, detection, and reaction. Evolving detection and reaction responsibilities extend far beyond the traditional ISSP role in protection or Information Security (INFOSEC). Focused on FORCEnet supporting the highly mobile forward-deployed subscriber, the US Navy's implementation of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users explodes and the criticality of their use escalates. Today, the ISSP protects an expanding core service critical to the effective performance of the Navy's mission, supported by Mission Assurance Category 1 systems.</p> <p>(U) The interconnectivity of Naval networks, attachment to the public information infrastructure, and their use in modern Naval and Joint war fighting means that FORCEnet is an extremely high value and more easily attainable target for our enemies. An adversary has a much broader selection of attack types from which to choose than in the past. In addition to the traditional attacks that involve the theft or eavesdropping of information, United States Navy (USN) information and telecommunications systems face advanced attacks involving malicious changes to critical information, changes to the functioning of critical systems, denial of service (jamming), and the destruction of systems and networks. Since many Navy information systems are based on commercially available technologies, an adversary often has access to the very technologies they want to exploit.</p> <p>(U) The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. ISSP provides the Navy's war fighter the essential information trust characteristics of availability, integrity, authentication, privacy, and non-repudiation. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet the rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure.</p>								

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 48)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7		0303140N Information Systems Security Program (ISSP)	
<p>(U) The Navy ISSP RDT&E program works to provide the Navy with these essential IA elements: (1) Assured separation of information levels and user communities, including coalition partners; (2) Assurance of the telecommunications infrastructure; (3) Assurance of Joint user enclaves, using a Defense in Depth architecture; (4) Assurance of the computing base and information store; and, (5) Supporting assurance technologies, including a Public Key Infrastructure (PKI) and directories. The goal of all ISSP RDT&E activities is to produce the best USN operational system that can meet the certification and accreditation requirements outlined in Department of Defense (DOD) Instruction 5200.40 (new DODI 85xx series pending). Modeling DOD and commercial information and telecommunications systems evolution (rather than being one-time developments), the ISSP RDT&E program must be predictive, adaptive, and technology coupled. The program develops frameworks, architectures, and products based on mission threats, information criticality, exploitation risks, risk management, and integrated Joint information system efforts.</p> <p>(U) All ISSP RDT&E efforts comply with the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) as implemented through Office of Management and Budget Circular A-119 of February 10, 1998, DoD Instruction 4120.24, Defense Standardization Program (DSP), and DoD Instruction 4120.3-M, Defense Standardization Program Policies and Procedures. The predominant commercial standards bodies in ISSP-related matters include International Standards Organization (ISO), American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE), Internet Engineering Task Force (IETF), World Wide Web Consortium (W3C), and National Institute of Standards and Technologies (NIST). The Joint interoperability required in today's telecommunications systems makes standards compliance a must, and the ISSP RDT&E program complies with the Joint Technical Architecture. The FORCEnet architecture and standards documents reflects this emphasis on interoperable standards.</p> <p>(U) The interconnection of FORCEnet into the DOD GIG requires all ISSP RDT&E activities to adopt a minimum standard of "best commercial IA practice." The ISSP RDT&E program examines commercial technologies to determine their fit within the USN architectures, provides feedback to vendors about what the Navy requires, and participates in the standards bodies themselves. When necessary to protect mission critical systems specified in Clinger/Cohen Act, the ISSP RDT&E develops or tailors commercial and government technologies, standards, and processes to meet Navy-unique requirements; prototypes systems or portions of systems and examines their utility in operational Navy settings; and, provides IA expertise and engineering to Navy and Joint information system developments. All ISSP technology development efforts solve specific Navy and Joint IA problems using techniques that speed transition to procurement as soon as ready.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade and integration of existing, operational systems. This includes cryptographic systems required to protect information defined in 40 USC Chapter 25 Sec 1452, and the ISSP cryptographic RDT&E program is the implementation of requirements in Executive Orders 12333 and 12958 and National Security Decision Directive 145.</p>			

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EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N / BA-7		0303140N Information Systems Security Program (ISSP)				0734 Information Systems Security				
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost			16.469	16.526	26.555	31.434	31.829	32.100	30.801	32.060
RDT&E Articles Qty										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navy Information Systems Security Program (ISSP), RDT&E provides Information Assurance (IA) solutions for the United States Navy (USN) forward deployed, highly mobile information subscriber. FORCENet relies upon an assured information infrastructure, and the ISSP RDT&E program architects, engineers, and provides the Quality of Assurance (QoA) consistent with risks faced. The ISSP addresses engineering design, development, modeling, test, and evaluation for the unique IA challenges associated with the highly mobile, dispersed, bandwidth limited, and forward-tactical connected USN communications systems.</p> <p>(U) ISSP RDT&E must work closely within the Navy's Information Operations – Exploit (Signals Intelligence - SIGINT) and Information Operations – Attack (INFOWAR) communities. ISSP RDT&E developed systems must dynamically change the Navy's current assurance vector, based upon operational indications and warnings. To ensure interoperability, ISSP RDT&E must integrate fully with the FORCENet and Maritime Cryptologic Architectures. ISSP RDT&E developed systems can provide the trigger for offensive warfare activities, such as those developed by the Naval Information Warfare Activity (NIWA).</p> <p>(U) This program element includes a rapidly evolving design and application engineering effort to modernize National-Security-grade (type-1) cryptographic equipment and ancillaries with state-of-the-art replacements in order to counter evolving and increasingly sophisticated threats. Communication Security (COMSEC) and Transmission Security (TRANSEC) evolution is from stand-alone dedicated devices to embedded modules incorporating National Security Agency (NSA) approved cryptographic engines, loaded with the certified algorithms and key, and interconnected via industry-defined interfaces. This includes the DOD GID CRD requirement for the development of Content Based Encryption (CBE) continuing in FY 06 -11.</p> <p>(U) In addition to protecting National Security information, ISSP RDT&E must provide enterprise-wide assurance for statutorily protected information under the Privacy Act of 1974, Computer Matching and Privacy Protection Act of 1988, Medical Records Confidentiality Act of 1995, Model State Public Health Privacy Act, 45 CFR subtitle A sub-chapter C, parts 160- 164, 1999, and the Federal Education Records Privacy Act. ISSP RDT&E efforts must also provide assurance to the broad spectrum of Sensitive-but-Unclassified (SBU) information such as financial, personnel, contractor proprietary, and procurement sensitive.</p> <p>(U) The ISSP today includes much more than legacy Computer Security (COMSEC)and Network Security (NETSEC) technology. IA, or Defensive Information Operations, exists to counter a wide variety of threats in a Navy environment. ISSP activities cover all telecommunications systems, and RDT&E projects must provide protection, detection, and reaction capabilities to the operational commander. ISSP RDT&E provides dynamic risk managed IA solutions to the Navy Information Infrastructure, not just security devices placed within a network.</p> <p>(U) Few technology areas change as fast as telecommunications and computers, and IA must keep pace. This results in the continuing need to evaluate, develop, and/or test IA products and approaches. Technology base efforts include developing or applying: (1) new secure voice prototypes; (2) technology for a new family of programmable COMSEC and TRANSEC modules; (3) security appliances and software for switched and routed networks; (4) technology to interconnect networks of dissimilar classification, known as Cross Domain Security; (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; and (6) PKI and associated access control technologies (such as SmartCards and similar security tokens).</p> <p>(U) The resulting expertise applies to a wide variety of Navy development programs that must integrate IA technology. Unlike traditional single-product development programs, the ISSP RDT&E holds a unique Navy-enterprise responsibility outlined in SECNAVINST 5239.3 and OPNAVINST 5239.1B.</p>										

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security
<p>(U) The ISSP RDT&E efforts must conclude with certified and accredited systems. This requires (1) Assured separation of information levels and user communities, including coalition partners; (2) Assurance of the telecommunications infrastructure; (3) Assurance of Joint user enclaves; (4) Assurance of the computing base and information store; and, (5) Supporting assurance technologies, including Public Key Infrastructure (PKI) and directories. To ensure interoperability and commercial standards compliance, these efforts often encompass the research, selective evaluation, integration, and test of Commercial off-the-shelf (COTS)/Non-developmental Item (NDI) IA security products. For example, evaluation may include defensible network boundary capabilities such as firewalls, secure routers and switches, guards, Virtual Private Networks (VPN), and network Intrusion Detection Systems (IDS).</p> <p>(U) The current operating environment has virtually eliminated the traditional distinction between telecommunications and information systems. Because IA is a cradle-to-grave enterprise-wide discipline, this program applies the technology and methodology to systems in development, production and operation, and develops the infrastructure needed to support and evaluate the security of deployed systems. The following describes several major ISSP technology areas:</p> <p>(U) Under the Navy Secure Voice (NSV) program, ISSP RDT&E assesses technology to provide high grade, secure tactical and strategic voice connectivity.</p> <p>(U) Under the Navy Cryptographic Modernization Program, ISSP RDT&E provides high assurance and other cryptographic technologies protecting information and telecommunication systems.</p> <p>(U) Under the Navy Security Management Infrastructure (SMI) program, ISSP RDT&E develops, evaluates, and applies new emerging technology and enhanced capabilities to the Electronic Key Management System (EKMS) and other Navy Information Systems. Additional efforts will focus on the architecture, design, and development of systems to manage the security parameters (i.e., cryptographic keys) necessary to the operation of the systems developed by the Secure Data and Secure Voice portions of the ISSP. This includes the application of PKI and Certificate Management Infrastructure (CMI) technology, and the development of improved techniques for key and certificate management to support emerging, embedded cryptographic technology.</p> <p>(U) Under the Secure Data program, efforts focus on architectures, designing, acquiring, demonstrating and integrating the IA technologies into FORCEnet and the Navy Marine Corp Intranet (NMCI). This portion of the ISSP supports delivery of network security engineering expertise needed to support the NMCI, OCONUS Base Level Information Infrastructure (BLII), and the Integrated Shipboard Network Systems (ISNS), along with constituent systems such as Advanced Digital Network System (ADNS), Global Command and Control System - Maritime (GCCS-M). It includes activities to:</p> <ul style="list-style-type: none">• Ensure that USN telecommunications and networks follow a consistent architecture and are protected against denial of service.• Ensure that all data within the USN Enterprise is protected in accordance with its classification and mission criticality, as required by law.• Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event.• Support the USN Computer Network Defense (CND) Service Provider Enabler by providing IA response to Information Operation Conditions (INFOCONS).• Defend against the unauthorized modification or disclosure of data sent outside enclave boundaries.• Provide a risk-managed means of selectively allowing essential information to flow across the enclave boundary.• Provide strong authentication of users sending or receiving information from outside their enclave.• Defend against the unauthorized use of a host or application, particularly operating systems.• Maintain configuration management of all hosts to track all patches and system configuration changes.• Ensure adequate defenses against subversive acts of trusted people and systems, both internal and external.		

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<ul style="list-style-type: none">• Provide a cryptographic infrastructure that supports key, privilege and certificate management; and that enables positive identification of individuals utilizing network services.• Provide an intrusion detection, reporting, analysis, assessment, and response infrastructure that enables rapid detection and reaction to intrusions and other anomalous events, and that enables operational situation awareness. <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p> <p>(U) METRICS: Earned Value Management (EVM) is used for metrics reporting and risk management.</p>		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Network Security Mission Capability Team (MCT)	2.635	2.965	7.195	8.295
RDT&E Articles Quantity				
<p>FY04 Accomplishments include: \$2,635- Continue to integrate security products and new technologies for robust Computer-Network (CND) for both shore and afloat installation. Accomplished system product evaluations for improved boundary security to enhance computer-network systems with greater performance, critical asset vulnerability prevention, and ever increasing insider threat. Continued to integrate CND afloat components to include Information Assurance (IA) administration tools, network & host intrusion detectionsystems, and client distributed embedded firewalls. Conducted CND Shore based IA system security accreditation and developed improvements for enhanced intrusion prevention, vulnerability alert administration, and active threat reporting. Initiated online web based information server for engineering support to access subject matter on system security, Network Operating Center (NOC) site 'As Built' Configuration Data, support emergency restoration, automate security system, Information assurance Vulnerability assessment (IAVA) distribution. Began product evaluations for improved security measures against insider threats and malicious code exploit. Piloted site evaluations with email SPAM elimination applications and expanded virus scanning of application protocols such as: POP3, HTTP, and FTP. Evaluated options to develop Strike Group deployment of CND IA system management and situation awareness reporting; continue to evaluate system solutions for Surface Combatant Class ships to enforce CND security policies and counter evolving cyber attacks.</p> <p>FY05 Plans include: \$2,965- Continue to integrate security products and new technologies for robust Computer-Network (CND) for both shore and afloat installation. Effort will be focused on CND system development to address recurring exploits against forward deployed units; to integrate CND management tools into a cohesive suite for unit level defense. Development to extend the security boundaries beyond the NOC's to enforce adaptive network security based on changing INFOCON policies, operator needs, and operational environments will be evaluated. Continue system security engineering design, modeling, technical evaluations, testing, and validation to formulate Commercial and Government product infusion for CND enhancement. Develop advanced IA tool kits to assist information system security managers to maintain computer network security posture and provide for vulnerability self assessment and remediation verification. Assess security systems to field capabilities to minimize the impact of the insider threat and to minimize the potential damage inflicted on information integrity or computer-network information systems. Enhance CND with leading technologies to block attacks with intrusion prevention management; to counter increasing threats posed by system vulnerabilities, malicious code, and malevolent insiders. Address user authorization and authentication techniques for system administration, remote user access, and enforce access controls on critical computer-network components. IA network components will be reviewed for application on UNCLASSIFIED through SECRET application networks and coordination with TOP SECRET host application requirements to provide the broadest support solution as possible.</p>				

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<p>FY 06 Plans include:</p> <p>\$7,195- Continue to integrate security products and new technologies for robust Computer-Network (CND) for both shore and afloat installation. Provide IA engineering design (+\$2.905M), evaluation, and testing techniques from end-to-end, through base-band networks, RF communications links, and information source-to-sink to satisfy the IA element of maintaining availability. Includes IA appliances, software, and implementation techniques for policies such as IAVA requirements, INFOCON response, and USN firewall policy. Begin development of a tier level management system (+\$2M) between Unit Level Ships and Global Enterprise Management for real-time display of security risk as: Computer-Network Threats, Vulnerabilities, and Critical System Security Performance. Begin development of a Global Enterprise Management system to integrate a secure means of hierarchically managing Network Operating Center security systems, Ship Security Monitors, and other Network Security Monitoring products. Begin development of improved real-time computer-network security policy administration (+\$0.925M) with analytical tools to identify application or computer-network issues with operational compliance. Establish a management process to enforce common unit level fleet firewall policies across the Navy Network Enterprise using products/techniques to centrally manage and push security policies to controllable devices such as Firewalls, Intrusion Detection Systems (IDS), and Filtering Routers at unit level ships and fleet Network Operation Centers. Begin development of enhanced fielded Security Management Tools (+\$1.365M) with new capabilities to support system configuration management and monitoring. Support development of online engineering support to access subject matter security system experts; automate security system IAVA distributions, web based information server, NOC site 'As Built' Configuration Data, and Emergency Restoration Files. Develop an IAVA verification assessment system to status Network Operation Center IAVA status for fielded security equipment.</p> <p>FY 07 Plans include:</p> <p>\$8,295 - Continue to provide the broadest range of Information Assurance research across Joint, Fleet, and ashore networks. Continue to provide security design engineering of new ships, aircraft, and submarines to ensure that the reduced manning and greater operational dependency on networks. Continue to provide IA engineering design (+\$3.497M), evaluation, and testing techniques from end-to-end, through base-band networks, RF communications links, and information source-to-sink to satisfy the IA element of maintaining availability. Continue development of a tier level management system (+\$2.319M) between Unit Level Ships and Global Enterprise Management for real-time display of security risk. Continue development of improved real-time computer-network security policy administration (+\$0.896M) with analytical tools to identify application or computer-network issues with operational compliance. Continue to develop management processes to enforce common unit level fleet firewall policies across the Navy Network Enterprise using products/techniques to centrally manage and push security policies to controllable devices such as Firewalls (FW), IDS, and Filtering Routers at unit level ships and fleet NOCs. Continue development of enhance fielded Security Management Tools (+\$1.583M) with new capabilities to support system configuration management and monitoring.</p>		

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	FY 04	FY 05	FY 06	FY 07
Crypto MCT	5.105	3.955	6.535	8.001
RDT&E Articles Quantity				
<p>FY04 Accomplishments include: \$5,105- Continued to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Includes design, development, testing, and evaluation of link, network, session, data transfer devices, and associated equipments. Provided continuous development of Crypto Modernization products and components KG-3X, KG-40AR, CTIC/CDH, IFF Mode 5, Link Encryption Family, Advanced Weapons/Expendable Crypto devices, and Next Generation COMSEC devices such as PEIP follow-on, Modern Legacy Crypto Solution, HAIPE and KW-46. Provided the coordination with the Information Systems Security Office at the National Security Agency. Provided specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Included development, modeling, testing, and deployment evaluation of architectures supporting next-generation structures such as remote-keyed, gateways, "lights-out" facilities, and wireless devices. Included architecture modeling, end-to-end security analysis, and integration cryptographic products into USN platform specific architectures. Efforts included increased support for embedded cryptographic products in DD(X) and JTRS.</p> <p>FY05 Plans Include: \$3,955 - Continue to provide security system engineering support for the development, evaluation and integration of emerging cryptographic products/components and devices, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Includes design, development, testing, and evaluation of link, network, session, data transfer devices, and associated equipments. Continue to provide development of Crypto Modernization products and components KG-3X, KG-40AR, CTIC/CDH, IFF Mode 5, Link Encryption Family, Advanced Weapons/Expendable Crypto devices, and Next Generation COMSEC devices such as PEIP follow-on, Modern Legacy Crypto Solution, HAIPE and KW-46. Continue to provide the coordination of development efforts with the Information Systems Security Office at the National Security Agency. Continue to develop specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Continue development, modeling, testing, and deployment evaluation of architectures supporting next-generation structures such as remote-keyed, gateways, "lights-out" facilities, and wireless devices. Includes architecture modeling, end-to-end security analysis, and integration cryptographic products into USN platform specific architecture. Continue development and integration of embedded cryptographic products.</p>				

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<p>FY06 Plans Include: \$6,535- Continue to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Provides continuous development coordination with the Information Systems Security Office at the National Security Agency. Provides (+\$2.905M) specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Continue the development and integration of Crypto Modernization products including KG-3X, KG-40AR, CTIC/CDH, IFF Mode 5, Link Encryption Family, Advanced Weapons/Expendable Crypto devices, and Next Generation COMSEC devices such as: PEIP follow-on, Modern Legacy Crypto Solution, KIV-19 Walburn (+\$1.130M), Thorton (+\$2.5M) and KW-46. Continue development and integration on the next generation network encryption devices, to include application and implementation of HAIPE in transformational architectures such as FORCEnet and JTRS WNW, and analysis of critical harmonization/integration solutions between modernized INE devices and Key Management, FNBDT and Wireless standards to ensure net-centric capability. Research potential uses of type-2 & 3 for use in type-1 historical environments.</p> <p>FY07 Plans Include: \$8,001 - Continue to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Continue the development and integration of Crypto Modernization (+\$3.483M) products including KG-3X, KG-40AR, CTIC/CDH, IFF Mode 5, Link Encryption Family, Advanced Weapons/Expendable Crypto devices, and Next Generation COMSEC devices such as: PEIP follow-on, KIV-19 Walburn (+\$.888M), Thorton (+\$3.630M) and KW-46. Continue development and integration on the next generation network encryption devices, to include application and implementation of HAIPE in transformational architectures such as FORCEnet and JTRS WNW, and develop integration solutions for modernized INE devices and Key Management, FNBDT and Wireless capabilities. Continue to research and develop potential uses of type-2 & 3 for use in type-1 historical environments.</p>		

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	FY 04	FY 05	FY 06	FY 07
Information Assurance Readiness MCT	0.329	0.313	0.313	0.374
RDT&E Articles Quantity				

FY04 Accomplishment include:
 \$329- Continued to provide systems security engineering support to all USN organizations in the certification and accreditation (C&A) of information systems. Provided C&A for the Navy Marine Corps Intranet and various coalition networks, involved with all delivering USN systems to ensure secure networks before operational testing. C&A activities included networks, applications, sensors, and databases. Developed and integrated Perl-based custom sniffer script to monitor network traffic the following into the INFOSEC Web site. Upgraded the Snort IDS to Solaris 9 and faster hardware and completed development of Chat Server Supports the Fleet Information Warfare Center (FIWC), the Naval Security Group Activity Pensacola, and the CTF-NMCI for continuing Computer Network Vulnerability Assessment (CNVA) activities. Completed database development to identify unique users. Continued the development and maintenance of USN infrastructure security policy. Developed tools for automatic updating and incorporation of Electronic Key Management System (EKMS) certification and accreditation information. Provided analysis and research for TEMPEST threat and vulnerability to Navy wireless systems. Developed NIC Web single point-of-presence website for Programs of Record (POR) compliance reporting, fleet information and patch data, initially addressing PEO-C4I POR/CMS systems.

FY05 Plans include:
 \$313- Continue to provide systems security engineering support to all USN organizations in the certification and accreditation of emerging information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks. Provide Antivirus Tools Support and Capabilities for R&D support systems and software to meet Navy Anti-Virus requirements. Complete the development and integration of tools for automatic updating and incorporation of EKMS certification and accreditation information. Complete integrations of Perl-based custom sniffer script to monitor network traffic the following into the INFOSEC Web site. Continue to update and maintain the USN infrastructure security policy. Continue follow-on development and integration of NIC Web single point-of-presence website for POR compliance reporting, fleet information and patch data, initially addressing PEO-C4I POR/CMS systems and adding other Navy SYSCOMs and PEOs.

FY06 Plans include:
 \$313 - Continue to provide systems security engineering support to all USN organizations in the certification and accreditation of emerging information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks. Provide continued Antivirus Tools support and capabilities for IA R&D support systems and software to meet Navy Anti-Virus requirements. Continue follow-on development and integration of NIC Web single point-of-presence website for POR compliance reporting, fleet information and patch data, initially addressing PEO-C4I POR/CMS systems and adding other Navy SYSCOMs and PEOs.

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<div><p>FY07 Plans include: \$374 - Continue to provide systems security engineering support to all USN organizations in the certification and accreditation of information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks. Provide continued Antivirus Tools support and capabilities for R&D support systems and software to meet Navy Anti-Virus requirements.</p></div>		

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	FY 04	FY 05	FY 06	FY 07	
Secure Voice MCT	0.807	0.939	0.935	1.116	
RDT&E Articles Quantity					
<p>FY04 Plans Include:</p> <p>\$807- Continued design and development of the 21st Century Secure Voice Architecture including: Secure Voice over Internet Protocol (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Century (SV-21) architectures. Ensure information superiority through the use of encryption, authentication, and access control mechanisms over Navy mission essential voice circuits. Effort included: (1) continued fielding of state of the art secure voice capabilities enabling secure point-to-point, netted, and conference connectivity, (2) ensuring interoperability with legacy secure voice systems, as well as interoperability with other services, agencies and coalition partners, (3) planning for future secure voice capabilities, both ashore and afloat, over tactical radio, data networks and telecommunications networks. Specific programs for FY04 include Secure Voice over Internet Protocol (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Century (SV-21) architectures. IWF includes the development of future narrow band digital (FNBDT) signaling for the future Advanced Digital Network System (ADNS) over IP architecture to provide interoperability between shipboard STE and shore FNBDT devices (Tactical Secure Voice Over IP). Continued the development and integration of Secure Voice Data Terminal (SVDT) which incorporates the FNBDT. Completed test stages of the Tactical Shore Gateway (TSG). Finished development of TSG to provide tactical-to-strategic secure voice interoperability between land-based systems and mobile platforms (Ship/Aircraft/Ground Forces) as a replacement for the Radio Wireline (RWI). Completed testing stages of FNBDT IWF to provide secure FNBDT interoperability between afloat and shore platforms as well as Joint, NATO and Coalition interoperability. Completed the full range of data rates (from 2400 bits per second (the MELP compatible base rate) to 32,000 bits per second (bps)) for the Variable Data Rate (VDR) algorithm - providing dynamic voice encoding throughout the 2.4k to 32k bps range.</p> <p>FY05 Plans Include:</p> <p>\$939-Continue development and integration efforts for Future Narrowband Digital Terminal (FNBDT) standard compression through Internet Protocol (IP) products. The FNBDT IP IWF will allow full utilization of STE capabilities and provides compression and protocol translation over an IP backbone. Begin the development and design of a functional model for development of the next generation secure voice/data crypto device. This effort will initiate development of baseline functionality (derived from operational/mission requirements and new technologies) for development of a RFP for production. This Secure Voice device shall incorporate the FNBDT algorithm and be able to support low bandwidth secure voice and data applications over High Frequency (HF), Ultra High Frequency (UHF), Extreme High Frequency (EHF), and Super High Frequency (SHF) designated Radio Frequency (RF) mediums. Conduct mission requirements definition of all secure voice equipment and their users to develop a new COMSEC device that will replace all legacy devices and incorporate the new voice technologies. Continue to develop a secure compression technique to support future narrow band digital (FNBDT) signaling for the future Advanced Digital Network System (ADNS) over IP architecture to provide interoperability between shipboard STE and shore FNBDT devices (Tactical Secure Voice Over IP). Begin development of Secure Voice Data Terminal (SVDT) which incorporates the FNBDT algorithm and supports low bandwidth secure voice and data applications over High Frequency (HF), Ultra High Frequency (UHF), Extreme High Frequency (EHF), and Super High Frequency (SHF) designated Radio Frequency (RF) mediums.</p>					

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security

FY06 Plans Include:

\$935 - Continue development of secure voice modernization and continue prototype integration of 21st Century Secure Voice Architecture including Secure Voice over Internet Protocol (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Century (SV-21) architectures. This effort will pave the way for a tactical secure VoIP capability that is the first step towards integrating legacy secure voice systems and modern commercial telephony. The purpose of this effort is to begin this technology transition while completing some of the more essential features of a prototype radio gateway and the tactical VoIP application, e.g., the dynamic variable data rate processor that provides most efficient use of IP bandwidth (an FORCENet goal) for voice traffic. Continue development and integration of Secure Voice Data Terminal (SVDT) which incorporates the FNBDT algorithm and supports low bandwidth secure voice and data applications over High Frequency (HF), Ultra High Frequency (UHF), Extreme High Frequency (EHF), and Super High Frequency (SHF) designated Radio Frequency (RF) mediums. Continue to develop a secure compression technique to support future narrow band digital (FNBDT).

FY07 Plans Include:

\$1,116 - Complete development and begin integration of secure voice modernization prototype and transition Secure Voice Modernization Architecture including Secure Voice over Internet Protocol (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Century (SV-21) architectures. Continue to develop and integrate secure compression technique to support future narrow band digital (FNBDT) signaling for the future Advanced Digital Network System (ADNS) over IP architecture to provide interoperability between shipboard STE and shore FNBDT devices (Tactical Secure Voice Over IP). Complete development and continue integration of Secure Voice Data Terminal (SVDT) which incorporates the FNBDT.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 13 of 48)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security		

	FY 04	FY 05	FY 06	FY 07
Cross Domain Solutions (CDS)	0.840	0.950	0.936	1.128
RDT&E Articles Quantity				

Note: Multiple Security Level (MSL) nomenclature changed to Cross Domain Solutions (CDS)

FY04 Accomplishments include:
 \$840-Continued to provide systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation to address emerging threats. Continued to develop multi-level security architecture for data transfer services (i.e. E-mail, file sharing , collaboration at SEA for Network Operating Centers (NOC) and US/Coalition afloat platforms. Began integration of initial Block Zero Multi-Security Level/Cross Domain Solution (MSL/CDS) prototype architecture at NOC facilities. Included integration of security requirements in the next generation Universal Mobile Telephone services, Generation 3.

FY05 Plans include:
 \$950- Continue to provide systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Continue to examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Continue to develop and integrate MSL/CDS prototype architecture at NOC facilities. Continue development of Block One CDS solution as a follow-on to Block Zero. The Block One CDS solution focus on providing a robust coalition interoperability using Multi-Level Thin Client (MLTC), secure guarding devices and afloat coalition network systems.

FY06 Plans include:
 \$936- Continue to provide systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Continue to examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Continue to develop and integrate MSL/CDS prototype architecture at NOC facilities. Continue development and integration of Block One CDS solutions to focus on providing a robust coalition interoperability using Multi-Level Thin Client (MLTC), secure guarding devices and afloat coalition network systems. Begin development of follow-on Block Two CDS upgrade to reduce footprint and provide reconfigurable, enabling IT network architecture for fleet combatants as well as ashore command centers that support data transfer service at multiple security levels.

FY07 Plans include:
 \$1,128- Continue to provide systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Continue to examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Continue to develop and integrate MSL/CDS prototype architecture at NOC facilities. Continue to development of follow-on Block Two CDS upgrade to reduce footprint and provide reconfigurable, enabling IT network architecture for fleet combatants as well as ashore command centers that support data transfer service at multiple security levels.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 14 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security		

	FY 04	FY 05	FY 06	FY 07
Key Management Infrastructure MCT	5.106	5.547	5.753	7.125
RDT&E Articles Quantity				

FY04 Accomplishments include:

\$5,106- Streamlined methods for secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products, services and fleet requirements. Provided engineering design for key management infrastructure (KMI) , including the Electronic Key management System (EKMS Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and Certificate Management Infrastructures (CMI). Completed the design, development and performed the pilot of Navy's Key Management System. Provided the design and development of the Certificate Authorization Workstation (CAW) regionalization strategy to implement the Remote Key/Re-key capability that eliminates the requirement to install CAWs on ships where DMS messaging is to be fielded. Continued efforts in the design and develop of certificate validation infrastructure (On-line Certificate Status Protocol (OCSP)). Provided systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Specific projects include: Afloat and OCONUS DoD Class 3/4 PKI, Current Class 4 (X.509) PKI for Organizational Secure Messaging, EKMS Common Tier 1 (CT1), EKMS Tier 2/3, and KMI.

FY05 Plans include:

\$5,547- Begin security and functionality testing and evaluation of PKI tokens, readers and middleware for the SIPRNET. Begin prototyping and certification/accreditation of the Navy's Key management system. Begin Common User Application Software (CUAS), Data Mgmt Device (DMD) and Simple Key Loader (SKL) development and integration. Begin and complete Mode 5 Identify Friend or Foe (IFF)(Time of Day) design and development. Begin development and integration of Future fill device. Provide engineering design evolution for the supporting key management infrastructure, to include: Electronic Key management System (EKMS Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Effort will include design, evaluation, integration, and testing of key-related platforms, such as smart cards, authentication mechanisms and biometric devices. Provide systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Complete design and development of the Certificate Authorization Workstation (CAW) regionalization strategy and begin to implement and integrate the CAW Remote Key/Re-key capability.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security
<div><p>FY06 Plans include: \$5,753- Continue design and development of the KMI local management workstation. Continue EKMS Phase V to include development and implementation of an extended , networked architecture (key distribution over SIPRNET) to improve distribution and reliability for deployed forces, modernized key processors, common user application software and data transfer devices. Continue to develop and integrate Online Certificate Status Protocol. Continue deveoplemt and integration of Future fill device. Begin security and functionality testing and evaluation of (OCSP) architecture for the SIPRNet. Continue security and functionality testing and evaluation of PKI tokens, readers and middleware for the SIPRNET. Complete prototyping and certification/accreditation of the Navy's Key management system. Begin Common User Aplpication Software (CUAS), Data Mgmt Device (DMD) and Simple Key Loader (SKL) development and integration. Continue CUAS, DMD and SKL development and integration. Conduct requirements definition for the End IA Unit (EIAU) Encryption device. Begin Wireless Key Fill technology design and development. Begin the Key Loading and Initialization Facility (KLIF) design and development.</p><p>FY07 Plans include: \$7,125- Complete security and functionality testing and evaluation of PKI tokens, readers and middleware for the SIPRNET. Continue to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identifying and prioritizing fleet requirements. Continue EKMS Phase V to include development and implementation of an extended , networked architecture (key distribution over SIPRNET) to improve distribution and reliability for deployed forces, modernized key processors, common user application software and data transfer devices. Continue to develop and integrate Online Certificate Status Protocol. Complete Wireless Key Fill technology design and development . Complete development and integration of Online Certificate Status Protocol. Complete DMS migration to PKI. Complete the initial design for EIAU management. Complete the Key Loading and Initialization Facility design and development.</p></div>		

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security		

	FY 04	FY 05	FY 06	FY 07
Emerging Technology MCT	1.647	1.857	4.888	5.395
RDT&E Articles Quantity				

FY04 Accomplishments include:
 \$1,647- Facilitated the transition and application of new technologies to Navy Information Assurance challenges. Specific areas focused on the following projects: (1) Secure Network Communications Including Coalition Applications, (2) Recognition and Prevention of Network Intrusions, (3) Convenient Wireless Applications with Adequate Security, (4) Synergistic Operation of IA and IO Functions, (5) Improved Access Control Using Biometrics, to include applications of commercially available biometrics technology to Navy logical and physical access problems, as well as applications considered for larger scale implementation, and (6) Rapid Transition of Technology to the Fleet, in support of Fleet Battle Experiments, Computer Network Defense in Depth (CNDID), Task Force WEB, Teleport, Ship Building and Construction, Navy (SCN) and other transition opportunities. Begin initial concept refinement for an Independent Host-based Intrusive Behavior Terminator (INHIBT) System that will proactively analyze transactions at the operating system level for normal behavior and initiate workstation and network survival systems for anomalous activity. Completed study to exploit recent strides in programmable cryptography to provide a "drop-in" Advanced Weapons Crypto (AWC) technology. Released v1.0 of Navy Enterprise Single Sign-On (NESSO) that contains an enhanced Java based Identity Server, initial implementations of Biometric Authentication, and implements the Liberty Alliance Federated Identity framework.

FY05 Plans include:
 \$1,857- Continue to support the transition and application of new technologies to Navy Information Assurance challenges. Continued emphasis will be placed on providing R&D support for programs that are identified by the product mission capability teams as their highest priorities, and on increasing the speed of delivery of useful information assurance capabilities to fleet users. Specific areas of continued focus will include the following projects: (1) Secure Network Communications Including Coalition Applications, (2) Recognition and Prevention of Network Intrusions, (3) Convenient Wireless Applications with Adequate Security, (4) Synergistic Operation of IA and IO Functions, (5) Improved Access Control Using Biometrics, to include applications of commercially available biometrics technology to Navy logical and physical access problems, as well as applications that are now considered ready for larger scale implementation, and (6) Rapid Transition of Technology to the Fleet, in support of Fleet Battle Experiments, CNDID, TF WEB, Teleport, SCN and other transition opportunities. Complete initial concept refinement for INHIBT System that will proactively analyze transactions at the operating system level for normal behavior and initiate workstation and network survival systems for anomalous activity. Continue AWC technology project with proof of concept demonstration and initial production development. Release v2.0 of NESSO which will be a full featured, open source, production quality product including an enhanced Java based Identity Server, complete implementation of Biometric Authentication, and the Liberty Alliance Federated Identity framework.

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Exhibit R-2a, RDTEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security
<div><p>FY 06 Plans include:</p><p>\$4,888- Continue to provide security systems engineering (+\$1.872M) support for the transition and application of new technologies to Navy Information Assurance challenges. Continue development of open source Single Sign-On solution (+\$1.094M) by incrementally adding new features/enhancements for federated identity, Public Key Infrastructure (PKI), Role Based Access Control (RBAC), Common Access Card (CAC) and Next Generation Access Systems. Provide standardized security design and installation baselines to ensure enhancements of configuration management. Develop and integrate IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), Secure Voice over Internet Protocol (SVoIP), and Horizontal Fusion. Begin development of INHIBT system (+\$1.199M) that will proactively analyze transactions at the operating system level for normal behavior and initiate workstation and network survival systems for anomalous activity. Develop Next Generation Access Systems solutions (+\$0.240M) to provide improved security for access to computers, networks, and sensitive spaces or buildings. Seamless integration with CAC is necessary. Provide IA engineering (+\$0.483M) for development of Wireless Networks and PDA security readiness of Naval wireless networks and mobile computing devices .</p><p>FY 07 Plans include:</p><p>\$5,395- Continue to provide security systems engineering (+\$2.245M) support for the transition and application of new technologies to Navy Information Assurance challenges. Continue to develop and begin transition of open source Single Sign-On solutions (+\$0.930M) for federated identity, Public Key Infrastructure (PKI), Role Based Access Control (RBAC), Common Access Card (CAC) and Next Generation Access Systems across multiple trusted domains. Continue to provide standardized security design and installation baselines to ensure enhancements of configuration management. Continue to develop and integrate IA Components into programs such as FORCEnet, CND-ID Strategy, TC, GIG-ES, SVoIP and Horizontal Fusion. Continue to develop and begin integration of INHIBT system (+\$1.469M) that will proactively analyze transactions at the operating system level for normal behavior and initiate workstation and network survival systems for anomalous activity. Continue to develop and begin integration of Next Generation Access Systems solutions (+\$0.245M) to provide improved security for access to computers, networks, and sensitive spaces or buildings. Seamless integration with CAC is necessary. Provide IA engineering for development of Wireless Networks and PDA security (+\$0.506M) readiness of Naval wireless networks and mobile computing devices, continue to evaluate products for security issues and develop guidance and procedures.</p></div>		

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 18 of 48)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Information Systems Security																																																																			
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">(U) Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY 05 President's Budget:</td> <td style="text-align: right;">15.876</td> <td style="text-align: right;">16.539</td> <td style="text-align: right;">15.535</td> <td style="text-align: right;">18.624</td> </tr> <tr> <td>FY 06 President's Budget:</td> <td style="text-align: right;">16.469</td> <td style="text-align: right;">16.526</td> <td style="text-align: right;">26.555</td> <td style="text-align: right;">31.434</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.593</td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">11.020</td> <td style="text-align: right; border-top: 1px solid black;">12.810</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.013</td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">0.811</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">10.930</td> <td style="text-align: right;">12.457</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.112</td> <td style="text-align: right;">0.171</td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.022</td> <td style="text-align: right;">0.182</td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td style="text-align: right;">-0.218</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.593</td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">11.020</td> <td style="text-align: right; border-top: 1px solid black;">12.810</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) Schedule:</p> <p style="margin-top: 40px;">(U) Technical:</p> <p style="margin-top: 40px;">N/A.</p>					(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY 05 President's Budget:	15.876	16.539	15.535	18.624	FY 06 President's Budget:	16.469	16.526	26.555	31.434	Total Adjustments	0.593	-0.013	11.020	12.810	Summary of Adjustments					Congressional Adjustments					Congressional Recissions		-0.013			Reprogrammings	0.811				Programmatic Adjustments			10.930	12.457	Economic Assumptions			0.112	0.171	Pricing Adjustments			-0.022	0.182	SBIR/STTR Transfers	-0.218				Subtotal	0.593	-0.013	11.020	12.810
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Exhibit R-2a, RD TEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 0734 Information Systems Security			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 3415 Info Sys Security Program (ISSP)	81.582	90.364	96.201	126.363	131.772	132.409	157.227	159.731
OMN 4A6M Info Sys Security Program (ISSP)	18.819	12.167	24.970	26.954	31.189	28.420	28.391	28.960
(U) E. ACQUISITION STRATEGY: *								
N/A.								
* Not required for Budget Activities 1,2,3, and 6								

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information Systems Security Program (ISSP)			0734 Information Systems Security						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	VIASAT, San Diego, CA	7.282							0.000	7.282	7.282
Primary Hardware Development	C/MIPR	MITRE, San Diego, CA	5.522	0.000		0.000		0.000		0.000	5.522	
Primary Hardware Development	C/CPAF	TBD	6.771	1.354	01/05	2.167	01/06	2.545	01/07	Continuing	Continuing	
Primary Hardware Development	C/VAR	Various	65.313	2.457	VAR	4.620	VAR	5.769	VAR	Continuing	Continuing	
Systems Engineering	C/VAR	Various	47.391	8.488	VAR	12.920	VAR	15.174	VAR	Continuing	Continuing	
Subtotal Product Development			132.279	12.299		19.707		23.488		Continuing	Continuing	
Remarks:												
Software Development	CPAF	SAIC, San Diego, CA	32.877							0.000	32.877	42.590
Software Development	C/WX	NRL, Washington D.C.	0.145	0.640	10/04	0.794	10/05	0.933	10/06	Continuing	Continuing	
Subtotal Support			33.022	0.640		0.794		0.933		Continuing	Continuing	
Remarks: SAIC target Value of contract includes other service's funding (ARMY RDT&E).												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 0734 Information Systems Security						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	Various	16.337	3.386	Various	5.524	Various	6.390	Various	Continuing	Continuing	Continuing
Subtotal T&E			16.337	3.386		5.524		6.390		Continuing	Continuing	
Remarks:												
Program Management Support	VAR	Various	4.601	0.201	Various	0.530	Various	0.623	Various	Continuing	Continuing	Continuing
Subtotal Management			4.601	0.201		0.530		0.623		Continuing	Continuing	
Remarks:												
Total Cost			186.239	16.526		26.555		31.434		Continuing	Continuing	
Remarks:												






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Exhibit R-3, Project Cost Analysis
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CLASSIFICATION:

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EXHIBIT R4, Schedule Profile																								DATE:															
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												February 2005			
RDT&E, N / BA-7												0303140N Information Systems Security Program (ISSP)												0734 Information Systems Security															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011										
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition * Milestones			EKMS Phase IV FOC 																																				
Test & Evaluation Milestones			MCS Cert		Capability 2		MCS Full Capability Cert																																
Development Test																																							
Operational Test																																							
Production Milestones			MCS Delivery 3B/2B		MCS Delivery 4 Capability																																		
MCS/KO-9 Capability Delivery																																							
Deliveries																																							

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* Note: MCS Deliveries support the MCS Capability Certifications

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Exhibit R-4a, Schedule Detail
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:	
								February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)					PROJECT NUMBER AND NAME 0734 Communications Security			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		2.271	1.973	2.105	2.056	2.242	2.199	2.251	2.303
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of navy and joint information and information systems from hostile exploitation and attack. ISSP activities address the triad of Defense Information Operations: protection ,detection, and reaction. Evolving attack sensing (detection), warning, and response (reaction) responsibilities extend far beyond the traditional ISSP role in protection or Information Systems Security (INFOSEC). Focused on the highly mobile forward-deployed subscriber, the US Navy's adoption of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users explodes and the criticality of their use escalates. Today, the ISSP protects an expanding core of services critical to the effective performance of the Navy's mission.</p> <p>The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure. The ISSP enables the Navy's war fighter to trust in the availability, integrity, authentication, privacy, and non-repudiation of information.</p> <p>This project includes funds for advanced technology development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all Command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the battlespace and for monitoring and protecting the information infrastructure from malicious activities. This effort will provide Naval Forces a secure capability and basis in its achievement of protection from unauthorized access and misuse, and optimized IA resource allocations in the information battlespace. This program will also develop core technology to improve network infrastructure resistance and resiliency to attacks; enable the rapid development and certification of security-aware applications and information technologies in accordance with the Common Criteria for IA and IA-Enabled information technology products by the National Security Telecommunications and Information Systems Security Instructions; and measure the effectiveness and efficiency of IA defensive capabilities under Naval environments.</p> <p>JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>									

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 25 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Communications Security		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Software and Systems Research	2.271	1.973	2.105	2.056
RDT&E Articles Quantity				
<p>The program will develop common architectural frameworks that facilitate integration of network security capabilities, enable effective seamless interoperability, and contribute to a common consistent picture of the networked environment with respect to information assurance and security. This effort will address the need for a common operational picture for IA, as well as assessment of security technology critical to the success of the mission. Initiate requirements definition for situation awareness capabilities to support computer network defense in highly distributed, homogeneous, and heterogeneous networks including mobile and embedded networked devices. This effort also includes the architectural definition of situational awareness and visualization capabilities to support active computer network defense and support underlying data mining and correlation tools. This includes addressing the capability to remotely manage and securely control the configurations of network security components to implement changes in real time or near real time. Initiate requirements definition for secure coalition data exchange and interoperability among security levels and classifications. Ensure approaches address various security level technologies as well as emerging architectural methods of providing interoperability across different security levels. Examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Initiate infrastructure protection efforts as the Navy develops network centric architectures and warfare concepts, ensuring an evolutionary development of security architectures and products for IA that addresses Navy infrastructure requirements. Ensure the architectures evolve to provide proper protection as technology, DOD missions, and the threat all evolve. Include defensive protections as well as intrusion monitoring (sensors), warning mechanisms, and response capabilities in the architecture. Ensure the unique security and performance requirements of tactical systems, including those operating various security levels are addressed. Initiate the efforts to conceptualize new network centric warfare technology to protect our assets, such as secure network gateways and routers, and components and tools that improve the survivability of Navy networks. Provide systems security engineering, certification and accreditation support for high-confidence naval information system and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.</p>				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 26 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 0734 Communications Security																																															
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%; text-align: right;">FY 2004</th> <th style="width: 15%; text-align: right;">FY 2005</th> <th style="width: 15%; text-align: right;">FY 2006</th> <th style="width: 20%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 05 President's Budget:</td> <td style="text-align: right;">2.271</td> <td style="text-align: right;">2.137</td> <td style="text-align: right;">2.102</td> <td style="text-align: right;">2.049</td> </tr> <tr> <td>FY 06 President's Budget:</td> <td style="text-align: right;">2.271</td> <td style="text-align: right;">1.973</td> <td style="text-align: right;">2.105</td> <td style="text-align: right;">2.056</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.164</td> <td style="text-align: right; border-top: 1px solid black;">0.003</td> <td style="text-align: right; border-top: 1px solid black;">0.007</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustments</td> </tr> <tr> <td>Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.164</td> <td></td> <td></td> </tr> <tr> <td>Pricing Changes</td> <td></td> <td></td> <td style="text-align: right;">0.003</td> <td style="text-align: right;">0.007</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.164</td> <td style="text-align: right; border-top: 1px solid black;">0.003</td> <td style="text-align: right; border-top: 1px solid black;">0.007</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) Schedule: N/A.</p> <p style="margin-top: 20px;">(U) Technical: N/A</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 05 President's Budget:	2.271	2.137	2.102	2.049	FY 06 President's Budget:	2.271	1.973	2.105	2.056	Total Adjustments	0.000	-0.164	0.003	0.007	Summary of Adjustments					Congressional Recissions		-0.164			Pricing Changes			0.003	0.007	Subtotal	0.000	-0.164	0.003	0.007
	FY 2004	FY 2005	FY 2006	FY 2007																																													
(U) Funding:																																																	
FY 05 President's Budget:	2.271	2.137	2.102	2.049																																													
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Subtotal	0.000	-0.164	0.003	0.007																																													

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 5005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 0734 Communications Security			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 3415 Info Sys Security Program (ISSP)	81.582	90.364	96.201	126.363	131.772	132.409	157.227	159.731
OMN 4A6M Info Sys Security Program (ISSP)	18.819	12.167	24.970	26.954	31.189	28.420	28.391	28.960
(U) E. ACQUISITION STRATEGY: *								
N/A.								
* Not required for Budget Activities 1,2,3, and 6								

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information Systems Security Program (ISSP)			0734 Communications Security						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Software Development	C/WX	NRL, Washington D.C.	6.361	1.973	10/04	2.105	10/05	2.056	10/06	Continuing	Continuing	
Subtotal Support			6.361	1.973		2.105		2.056		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA-7			0303140N Information Systems Security Program (ISSP)			0734 Communications Security						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Program Management Support											0.000	
Subtotal Management			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Total Cost			6.361	1.973		2.105		2.056		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)				PROJECT NUMBER AND NAME 9281 Intelligent Agent Security Module (IASM)			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		5.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional plus-up for Navy's Intelligent Agent Security Module (IASM). Continued research and development for Small Business Research Initiative (SBIR Phase 2) for a network wide Intrusion Detection System (IDS) (referred to as Naval Intelligent Agent Secure Module (NIASM)) which monitors existing sensors and devices to include Firewalls, Virtual Private Network (VPN) servers, and Information Decision Systems (IDS). The IASM is intended to enhance network security by correlating information from multiple security products and deriving a concise, accurate assessment of malicious actions and unauthorized use. In addition the IASM will provide network administrators with recommended response actions in order to terminate attacks. The IASM is intended for deployment at tactical Network Operation Centers, Shipboard, and at the Fleet Information Warfare Center.</p> <p>U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>									

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 31 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 9281 Intelligent Agent Security Module (IASM)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Intelligent Agent Security Module (IASM)	5.300	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>FY 04 Accomplishments include: \$5,300- Continued to develop network wide Intrusion Detection System (IDS) (referred to as Naval Intelligent Agent Secure Module (NIASM)). Continued to develop a hierarchal data monitoring and analysis system to support the design of a Global Navy, Base Level Information Infrastructure security assurance grid. Efforts will include independent operational and performance tests to verify the system hardness in a military ship-at-sea environment. Continued to resolve critical design issues to meet IASM Build 1.0 shore system integration readiness and certify shore Network Operating Center system security integration at Information Assurance test facilities.</p>				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 32 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	9281 Intelligent Agent Security Module (IASM)		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget:	5.439	0.000	0.000	0.000
FY06 President's Budget:	5.300	0.000	0.000	0.000
Total Adjustments	-0.139	0.000	0.000	0.000
Summary of Adjustments				
Economic Assumptions	-0.005	0.000	0.000	0.000
SBIR	-0.134			
Subtotal	-0.139	0.000	0.000	0.000
(U) Schedule:				
N/A				
(U) Technical:				
N/A				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 33 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 9281 Intelligent Agent Security Module (IASM)		
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 3415 Info Sys Security Program (ISSP)	81.582	90.364	96.201	126.363	131.772	132.409	157.227	159.731
OMN 4A6M Info Sys Security Program (ISSP)	18.819	12.167	24.970	26.954	31.189	28.420	28.391	28.960
RDT&E 0303140N Info Sys Security (ISSP)	16.469	16.526	26.555	31.434	31.829	32.100	30.801	32.060
(U) E. ACQUISITION STRATEGY: *								
The Navy intends to continue IASM development on existing RD contract with Promia, Inc.								
* Not required for Budget Activities 1,2,3, and 6								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 34 of 48)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 9281 Intelligent Agent Security Module (IASM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	C/CPAF	PROMIA, Inc.	4.500	0.000		0.000		0.000			4.500	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			4.500	0.000		0.000		0.000		0.000	4.500	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 35 of 48)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information Systems Security Program (ISSP)			9281 Intelligent Agent Security Module (IASM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC Charleston, SC	0.400	0.000		0.000		0.000			0.400	
Developmental Test & Evaluation	WX	SSC San Diego, CA	0.400	0.000		0.000		0.000			0.400	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.800	0.000		0.000		0.000		0.000	0.800	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			5.300	0.000		0.000		0.000		0.000	5.300	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)				PROJECT NUMBER AND NAME 9430 SECURE Kit			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.729	4.547	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional plus-up for Navy's SECURE Kit . Develop systems that will allow a user at a single workstation seat to access multiple security networks based on the user's access clearance and need to know. The web architecture-based solution will allow the user to access this information at the Navy enterprise level and eliminates the need to reconfigure networks and hardware when accessing one domain or another. In order to implement a fully enabled end-to-end network enterprise environment envisioned by the FORCEnet vision document, we have developed a component-based architecture called SECUREkit. SECUREkit will provide the necessary components to meet the Naval warfighter needs, which can be summarized as three.</p> <p>(1) Single points of entry anywhere on the network to any place on the network with complete transparency to the tiers of enterprise services.</p> <p>(2) Access from that single point to all appropriate security domains.</p> <p>(3) Provide the ability to dynamically, or on the fly, reconfigure the Multi-Level System (MLS) enterprise.</p> <p>The evolutionary the component architecture of the SECUREkit architecture is being accomplished through partnering efforts with the National Security Agency (NSA) and the PEO(C4I&Space). This architecture is made up of trusted servers, trusted pathways, and trusted clients. The goal of SECUREkit will be to make available to warfighters in the Global Information Grid Enterprise Services (GIG ES) all components that are certified at Evaluated Assurance Level 6 (EAL6).</p> <p>U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>									

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 37 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 9430 SECURE Kit		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
SECUREKit	1.729	4.547	0.000	0.000
RDT&E Articles Quantity				
<p>FY04 Accomplishment includes: \$1,729- Performed SECUREkit pathway feasibility demonstration of components to develop possible solution for MSL and CDS. Conducted research, development, and test and evaluation of this promising MSL technology to be applied to future phases of the MSL spiral development. Current MSL systems does not meet all fleet requirements, thus further R&D is required to fulfill the need. Specifically, the need that SECUREkit intends to satisfy is a fully multiple-level security Navy enterprise capability. The pathway components are the next elements of this capability requiring development.</p> <p>FY05 Plans include: \$4,547 - FY05 efforts are directed to completing the design and development of Network access device that includes multi-factor identification, identity management process, and inline encryption engine. The design is currently still a work in progress but may be either internal PCI card or and external black box device. These components will be based on open architecture and designed for enabling web-based enterprise services in the Department of the Navy and coalition participants. These components will provide for a trusted path, or high assurance transactions, between servers, clients, and other resources in the FORCEnet enterprise.</p>				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 38 of 48)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
February 2005							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RDT&E, N / BA-7		0303140N Information Systems Security Program (ISSP)			9430 SECURE Kit		
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007		
FY 05 President's Budget:		1.780	0.000	0.000	0.000		
FY 06 President's Budget:		<u>1.729</u>	<u>4.547</u>	<u>0.000</u>	<u>0.000</u>		
Total Adjustments		-0.051	4.547	0.000	0.000		
Summary of Adjustments							
Congressional Adjustments			4.600				
Congressional Recissions			-0.053				
Reprogrammings							
Programmatic Adjustments							
Economic Assumptions		-0.002					
Pricing Adjustments							
SBIR/STTR Transfers		<u>-0.049</u>					
Subtotal		-0.051	4.547	0.000	0.000		
(U) Schedule:							
N/A							
(U) Technical:							
N/A							

UNCLASSIFIED

DATE: **February 2005**

(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 3415 Info Sys Security Program (ISSP)	81.582	90.364	96.201	126.363	131.772	132.409	157.227	159.731
OMN 4A6M Info Sys Security Program (ISSP)	18.819	12.167	24.970	26.954	31.189	28.420	28.391	28.960
RDT&E 0303140N Info Sys Security (ISSP)	16.469	16.526	26.555	31.434	31.829	32.100	30.801	32.060

(U) E. ACQUISITION STRATEGY: *

The Navy intends to continue IASM development on existing RD contract with Promia, Inc.

* Not required for Budget Activities 1,2,3, and 6

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 40 of 48)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information Systems Security Program (ISSP)			9430 SECURE Kit						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	CPFF	PSI, Inc.	1.629	4.247	VAR	0.000		0.000			5.876	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.629	4.247		0.000		0.000		0.000	5.876	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 9430 SECURE Kit						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC Charleston, SC	0.000	0.000		0.000		0.000			0.000	
Developmental Test & Evaluation	WX	SSC San Diego, CA	0.000	0.000		0.000		0.000			0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	CPFF	BAH, Inc.	0.100	0.300	VAR	0.000		0.000			0.400	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.100	0.300		0.000		0.000		0.000	0.400	
Remarks:												
Total Cost			1.729	4.547		0.000		0.000		0.000	6.276	
Remarks:												

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 42 of 48)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)				PROJECT NUMBER AND NAME 9647 Collaborative Information Warfare Network (CIWN)			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.000	3.465	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional plus-up for the Collaborative Information Warfare Network (CIWN). The CIWN will provide an architecture by which other networks (MC, Navy, HLS, HSD, NGB, FBI,) can be integrated and interoperate securely. The CIWN architecture provides the interfaces by which agencies with specific network requirements can maintain their networks in a distributed fashion and interoperate and share critical infrastructure data and information. This CIWN architecture enables a distributed network solution that reduces the risk of attack on a single national network. CIWN includes the network architecture by which the CIPCs and CIPC partners and subscribers interoperate and conduct information operations (to include data and information sharing, knowledge engineering, and data and infrastructure protections). Embedded within the CIWN architecture is the National Technology Assessment Network (NTAN). The NTAN is a virtual network designed to provide a virtual environment in which technologies can be assessed by CIPC partners for inclusion in their IT Infrastructures without the building the additional infrastructure required to support its assessment. In addition, the NTAN provides an environment in which Federal, State, Local, Industry and Academia can assess existing and future technologies for compatibility and interoperability within the CIWN.</p> <p>U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>									

R-1 SHOPPING LIST - Item No. 194

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 43 of 48)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)	PROJECT NUMBER AND NAME 9647 Collaborative Information Warfare Network (CIWN)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
CIWN	0.000	3.465	0.000	0.000
RDTE Articles Quantity				
<p>FY 05 Accomplishment includes: N/A</p> <p>FY05 Plans include: \$3.465- The FY 05 RDT&E Congressional increase will provide for the development of the Collaborative Information Warfare Network architecture and publish a guide that frames processes to both Federal and Military organizations for the monitoring, detection, protection and remediation of potential threats to the operation of the nations' critical infrastructure. The CIWN network architecture will establish a collaborative environment linking center's in four regional geographic areas and in Canada and Mexico.</p>				

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	9647 Collaborative Information Warfare Network (CIWN)		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget:	0.000	0.000	0.000	0.000
FY 06 President's Budget:	0.000	3.465	0.000	0.000
Total Adjustments	0.000	3.465	0.000	0.000
Summary of Adjustments				
Congressional Adjustments		3.500		
Congressional Recissions		-0.035		
Reprogrammings				
Programmatic Adjustments				
Economic Assumptions				
Pricing Adjustments				
SBIR/STTR Transfers				
Subtotal		3.465		
(U) Schedule:				
N/A				
(U) Technical:				
N/A				

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 9647 Collaborative Information Warfare Network (CIWN)			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 3415 Info Sys Security Program (ISSP)	81.582	90.364	96.201	126.363	131.772	132.409	157.227	159.731
OMN 4A6M Info Sys Security Program (ISSP)	18.819	12.167	24.970	26.954	31.189	28.420	28.391	28.960
RDT&E 0303140N Info Sys Security (ISSP)	16.469	16.526	26.555	31.434	31.829	32.100	30.801	32.060
 (U) E. ACQUISITION STRATEGY: *								
+								
* Not required for Budget Activities 1,2,3, and 6								

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information Systems Security Program (ISSP)			9647 Collaborative Information Warfare Network (CIWN)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support	WX	SSC Charleston, SC	0.000	3.265	VAR						3.265	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	3.265		0.000		0.000		0.000	3.265	
Remarks:												

R-1 SHOPPING LIST - Item No. 194

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0303140N Information Systems Security Program (ISSP)				PROJECT NUMBER AND NAME 9647 Collaborative Information Warfare Network (CIWN)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			0.000	0.000		0.000		0.000			0.000	
Developmental Test & Evaluation			0.000	0.000		0.000		0.000			0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support		BAH, Inc.	0.000	0.200	VAR	0.000		0.000			0.200	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.200		0.000		0.000		0.000	0.200	
Remarks:												
Total Cost			0.000	3.465		0.000		0.000		0.000	3.465	
Remarks:												

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Exhibit R-3, RD TEN Project Cost Analysis
(Exhibit R-3, page 48 of 48)

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				R-1 ITEM NOMENCLATURE 0303158N Joint Command and Control (JC2) Program				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0.000	0.000	5.000	5.000	5.000	5.000	5.000	5.000
3146 JOINTCOMMAND AND CONTROL (JC2)	0.000	0.000	5.000	5.000	5.000	5.000	5.000	5.000
Quantity of RDT&E Articles								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Command And Control (JC2) capability will contain the fundamental building blocks and common applications for all fielded DoD Command and Control Systems. JC2 will provide the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of DoD, Allied and coalition forces through a combination of communications, intelligence and combat system interfaces. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support migration of GCCS-M capabilities to commercial best practices as the JC2 architecture is further refined.

JC2 will include all C4I applications required to fully support Navy/joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet. The Joint Command and Control (JC2) capability will be the Department of Defense (DoD) principal command and control (C2) information technology system. JC2 will provide agile C2 capabilities allowing joint forces to achieve a tempo of operations, decision-making, and command that adversaries cannot match. JC2 will enable decision superiority via advanced collaborative information sharing achieved through vertical/horizontal joint C2 interoperability. Transformation to future warfighting capabilities requires enhanced battlespace awareness, timely information exchange, and net-centric forces to support critical joint and multinational operations.

Global Command and Control System (GCCS) including GCCS-M, will evolve from its current state of joint and Service variants to a single joint C2 architecture and capabilities-based implementation comprised of joint mission capability packages and Service-unique applications based on Global Information Grid (GIG) enterprise services enabling shared access to Service/Agency/joint-provided data sources. The first step in this evolution is the creation of a DoD Program Element and transfer of some funding from each of the services' GCCS program lines, beginning in FY 06. JC2 will support force-level planning, execution, monitoring, and assessment of joint and multinational operations. JC2 will employ a secure, collaborative, web-enabled, and tailorable C2 architecture that provides decision superiority and vertical/horizontal interoperability. Users will access shared data sources through common Internet Protocol (IP)-based network services, common data representations, and common catalogs/directories capable of utilizing intelligent thin and ubiquitous (e.g., wireless, PDA) clients.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		0303158N Joint Command and Control (JC2) Program				3146 JOINT COMMAND AND CONTROL (JC2)					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		0.000	0.000	5.000	5.000	5.000	5.000	5.000	5.000		
RDT&E Articles Qty											
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Command And Control (JC2) program will contain the fundamental building blocks and common applications for all fielded DoD Command and Control Systems. JC2 will provide the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of DoD, Allied and coalition forces through a combination of communications, intelligence and combat system interfaces. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support migration of GCCS-M capabilities to commercial best practices as the JC2 architecture is further refined.</p> <p>JC2 will include all C4I applications required to fully support Navy/joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet. The Joint Command and Control (JC2) capability will be the Department of Defense (DoD) principal command and control (C2) information technology system. JC2 will provide agile C2 capabilities allowing joint forces to achieve a tempo of operations, decision-making, and command that adversaries cannot match. JC2 will enable decision superiority via advanced collaborative information sharing achieved through vertical/horizontal joint C2 interoperability. Transformation to future warfighting capabilities requires enhanced battlespace awareness, timely information exchange, and net-centric forces to support critical joint and multinational operations.</p> <p>Global Command and Control System (GCCS) including GCCS-M, will evolve from its current state of joint and Service variants to a single joint C2 architecture and capabilities-based implementation comprised of joint mission capability packages and Service-unique applications based on Global Information Grid (GIG) enterprise services enabling shared access to Service/Agency/joint-provided data sources. The first step in this evolution is the creation of a DoD Program Element and transfer of some funding from each of the services' GCCS program lines, beginning in FY 06. JC2 will support force-level planning, execution, monitoring, and assessment of joint and multinational operations. JC2 will employ a secure, collaborative, web-enabled, and tailorable C2 architecture that provides decision superiority and vertical/horizontal interoperability. Users will access shared data sources through common Internet Protocol (IP)-based network services, common data representations, and common catalogs/directories capable of utilizing intelligent thin and ubiquitous (e.g., wireless, PDA) clients.</p>											

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 7)

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0303158N Joint Command and Control (JC2) Program	PROJECT NUMBER AND NAME 3146 JOINT COMMAND AND CONTROL (JC2)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.000	5.000
RDT&E Articles Quantity				
<div><p>FY 06- Begin the migration to the JC2 system and the development and fielding of JC2. Attain MS B decision and associated documentation.</p><p>FY 07 - Continue the migration to the JC2 system and the development and fielding of JC2.</p></div>				

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDTE, N / BA-5	0303158N Joint Command and Control (JC2) Program	3146 JOINT COMMAND AND CONTROL (JC2)		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 PB Submit:	0.000	0.000	0.000	0.000
FY06 PB Submit:	0.000	0.000	5.000	5.000
Total Adjustments	0.000	0.000	5.000	5.000
Summary of Adjustments				
Issue 74534 PDM II: Joint Command and Control (JC2)			5.000	5.000
Subtotal	0.000	0.000	5.000	5.000
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable.				

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 4 of 7)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0303158N Joint Command and Control (JC2) Program			PROJECT NUMBER AND NAME 3146 JOINT COMMAND AND CONTROL (JC2)					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) E. ACQUISITION STRATEGY:										
N/A										

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UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA 5			PROGRAM ELEMENT 0303158N Joint Command and Control (JC2) Program			PROJECT NUMBER AND NAME 3146 JOINT COMMAND AND CONTROL (JC2)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	WX	SSC SD				1.250		1.250		Continuing	Continuing	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			0.000	0.000		1.250		1.250		Continuing	Continuing	0.000
Remarks:												
Development Support	WX	SSC SD				0.625		0.625		Continuing	Continuing	0.000
Software Development	WX	SSC SD				0.625		0.625		Continuing	Continuing	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		1.250		1.250		Continuing	Continuing	0.000
Remarks:												

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UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0303158N Joint Command and Control (JC2) Program			PROJECT NUMBER AND NAME 3146 JOINT COMMAND AND CONTROL (JC2)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC SD				1.250		1.250		Continuing	Continuing	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		1.250		1.250		Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support	WX	SSC SD				1.250		1.250		Continuing	Continuing	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		1.250		1.250		0.000	2.500	0.000
Remarks:												
Total Cost			0.000	0.000		5.000		5.000		Continuing	Continuing	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY			PROJECT NUMBER AND NAME 4021/CJR System Engineering				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	68.519	92.712	121.261	132.832	119.123	77.866	41.957	24.842
RDT&E Articles Qty	0	0	0	0	0	0	0	0

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description

Cobra Judy Replacement is a program that has been transferred from the Air Force to the Navy, per an Office of the Secretary of Defense (OSD) Milestone A Acquisition Decision Memorandum dated 6 August 2002. Funding depicted herein represents approximately half of the total budget.

Cobra Judy funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service no later than 2012. This program will fund the development of a single ship-based radar suite for world wide technical data collection against ballistic missiles in flight. Prior funding provided instrumentation of quality radar data and imaging, detailing threat assessment of ballistic missile development, testing and range augmentation and monitored or verified specific aspects of United States treaties with other countries. To avoid vulnerabilities in our national security it is imperative we replace the current capability of Cobra Judy in a timely manner to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution.

The Cobra Judy Replacement program has successfully reached Milestone B/C, resulting in an approved Acquisition Strategy. The current CAIG estimate is consistent with the approved Acquisition Strategy. This submission reflects the current CAIG estimates.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	43.102	72.229	103.072	92.982
RDT&E Articles Quantity	0	0	0	0

DESIGN AND RISK REDUCTION
 Planned:
 Complete critical designs for prime mission (X-band & S-band) radars

Accomplishments:
 - Awarded key contract for X and S-band radars

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.902	6.000	9.701	27.895
RDT&E Articles Quantity	0	0	0	0

SHIPBUILDING / CONVERSION
 Planned:
 - Complete ship selection studies
 - Contract for ship and integration
 - Initiate ship construction

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	13.428	11.691	3.638	3.321
RDT&E Articles Quantity	0	0	0	0

SYSTEM ENGINEERING
 Planned:
 - Requirements development and analysis
 - Development of specifications
 - Complete designs for non-prime mission equipment (C4I, data handling, classified mission equipment)

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Exhibit R-2a, RDTEN Project Justification
 (Exhibit R-2a, page 2 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.585</td><td style="text-align: center;">0.783</td><td style="text-align: center;">2.425</td><td style="text-align: center;">5.977</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.585	0.783	2.425	5.977	RDT&E Articles Quantity	0	0	0	0
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.585	0.783	2.425	5.977															
RDT&E Articles Quantity	0	0	0	0															
<div style="border: 1px solid black; padding: 5px;">TEST & EVALUATION Planned:<ul style="list-style-type: none">- Review planning documents in preparation for Developmental Test & Evaluation (DT&E) (i.e. TEMP)- Review radar proposals and contracts- Support Technical Interchange Meetings (TIMs)</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">8.502</td><td style="text-align: center;">2.009</td><td style="text-align: center;">2.425</td><td style="text-align: center;">2.657</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	8.502	2.009	2.425	2.657	RDT&E Articles Quantity	0	0	0	0
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Accomplishments/Effort/Subtotal Cost	8.502	2.009	2.425	2.657															
RDT&E Articles Quantity	0	0	0	0															
<div style="border: 1px solid black; padding: 5px;">PROGRAM MANAGEMENT SUPPORT/CONTRACT ENGINEERING Planned:<ul style="list-style-type: none">- Program planning, assessment of technical alternatives, risk identification and mitigation.- Cost and schedule development and execution</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Total Cost:</td><td style="width: 15%; text-align: center;">68.519</td><td style="width: 15%; text-align: center;">92.712</td><td style="width: 15%; text-align: center;">121.261</td><td style="width: 15%; text-align: center;">132.832</td></tr></table>					Total Cost:	68.519	92.712	121.261	132.832										
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R-1 SHOPPING LIST - Item No. 197

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering																																																									
<p>C. (U) PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">69.369</td> <td style="text-align: right;">80.694</td> <td style="text-align: right;">124.804</td> <td style="text-align: right;">137.155</td> </tr> <tr> <td>FY 2006/2007 President's Budget</td> <td style="text-align: right;">68.519</td> <td style="text-align: right;">92.712</td> <td style="text-align: right;">121.261</td> <td style="text-align: right;">132.832</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.850</td> <td style="text-align: right; border-top: 1px solid black;">12.018</td> <td style="text-align: right; border-top: 1px solid black;">-3.543</td> <td style="text-align: right; border-top: 1px solid black;">-4.323</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Programmatic Adjustments</td> <td style="text-align: right;">-0.772</td> <td style="text-align: right;">-0.982</td> <td style="text-align: right;">-0.276</td> <td style="text-align: right;">-0.323</td> </tr> <tr> <td> FFRDC Reduction</td> <td style="text-align: right;">-0.014</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td> Non Pay Inflation Savings</td> <td style="text-align: right;">-0.064</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td> Other Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-3.267</td> <td style="text-align: right;">-4.000</td> </tr> <tr> <td> Congressional Increase</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">13.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.850</td> <td style="text-align: right; border-top: 1px solid black;">12.018</td> <td style="text-align: right; border-top: 1px solid black;">-3.543</td> <td style="text-align: right; border-top: 1px solid black;">-4.323</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Not Applicable.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 20px;">Not Applicable.</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY 2005 President's Budget	69.369	80.694	124.804	137.155	FY 2006/2007 President's Budget	68.519	92.712	121.261	132.832	Total Adjustments	-0.850	12.018	-3.543	-4.323	Summary of Adjustments					Programmatic Adjustments	-0.772	-0.982	-0.276	-0.323	FFRDC Reduction	-0.014	0.000	0.000	0.000	Non Pay Inflation Savings	-0.064	0.000	0.000	0.000	Other Adjustments	0.000	0.000	-3.267	-4.000	Congressional Increase	0.000	13.000	0.000	0.000	Subtotal	-0.850	12.018	-3.543	-4.323
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																							
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R-1 SHOPPING LIST - Item No. 197

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY			PROJECT NUMBER AND NAME 4021/CJR System Engineering		

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
P.E. 0303901N									Continuing	Continuing
Details and funding profile for this Program Element is classified.										

E. ACQUISITION STRATEGY:

(U) The acquisition strategy calls for leveraging ongoing Navy Ballistic Missile Defense (BMD) radar development, updating existing user interface/communications/data handling equipment designs from a similar operational unit, and purchasing and integrating the mission equipment aboard an appropriate merchant-class hull. System design will be accomplished using in-hand technologies and commercial standards to lower schedule risk and produce a product with the lowest possible life-cycle cost.

F. MAJOR PERFORMERS:

Raytheon Company - Sudbury, Massachusetts
Northrop Grumman (subcontractor) - Baltimore, Maryland

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)													DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RD T&E, N / BA - 7			PROGRAM ELEMENT NAME AND NUMBER 0305149N/COBRA JUDY			PROJECT NUMBER AND NAME 4021/CJR System Engineering								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev / Sys Eng														
Prototype Development	CPAF	Raytheon	26.430	43.102	09/04	72.229	TBD	103.072	TBD	92.982	TBD	Continuing	Continuing	TBD
		PMS 325	6.430	2.902	02/04	6.000	11/05	9.701	TBD	27.895	TBD	Continuing	Continuing	TBD
Award Fee														
System Engineering	WX/RX	Various	0.040	1.212	02/04	1.925	11/05	3.638	TBD	3.321	TBD	Continuing	Continuing	TBD
	MIPR	Various	0.409	0.734	02/04	0.382	11/05							
	MIPR	MIT/LL	0.020	1.824		0.900	11/05							
	WX	NSWC DD	2.855	2.704	02/04	1.902	11/05							
	WX	NSWC CSS	2.085	0.857	02/04	0.000	11/05							
	WX	NSWC PHD	0.435	0.750	02/04	0.500	11/05							
	WX	NRL	0.375	0.425	02/04	0.640	11/05							
	WX	SEG	0.600	0.595	02/04	0.000	11/05							
	WX/PD	SPAWAR	0.320	0.708	02/04	1.600	11/05							
	C NF	GTRI	0.400	0.450	02/04	0.650	11/05							
	CPFF	JHU/APL	1.035	2.089	02/04	2.200	11/05							
		Riverside Research	0.000	0.000	02/04	0.992	01/05							
	GSA	Various	0.611	1.080	02/04	0.000	N/A							
Subtotal Product Development			42.045	59.432		89.920		116.411		124.198		Continuing	Continuing	TBD
Remarks:														
Test and Evaluation														
Test and Evaluation	CPAF/WX/RX	Various	0.000	0.000	N/A	0.000	TBD	1.213	TBD	1.328	TBD	Continuing	Continuing	TBD
	CPAF	Raytheon	0.000	0.100	09/04	0.300	TBD	1.212	TBD	4.649	TBD	Continuing	Continuing	TBD
		PMS 325	0.265	0.100	02/04									
	WX	NSWC DD	0.310	0.031	02/04	0.368								
		AFOTEC	0.050	0.085	02/04	0.050								
		COMOPTEVFOR	0.105	0.094	02/04	0.050								
		JITC	0.050	0.175	02/04	0.015								
		TSC	0.250	0.000	N/A									
Subtotal T&E:			1.030	0.585		0.783		2.425		5.977		Continuing	Continuing	TBD
Remarks:														
Total Cost			43.075	60.017		90.703		118.836		130.175		Continuing	Continuing	TBD

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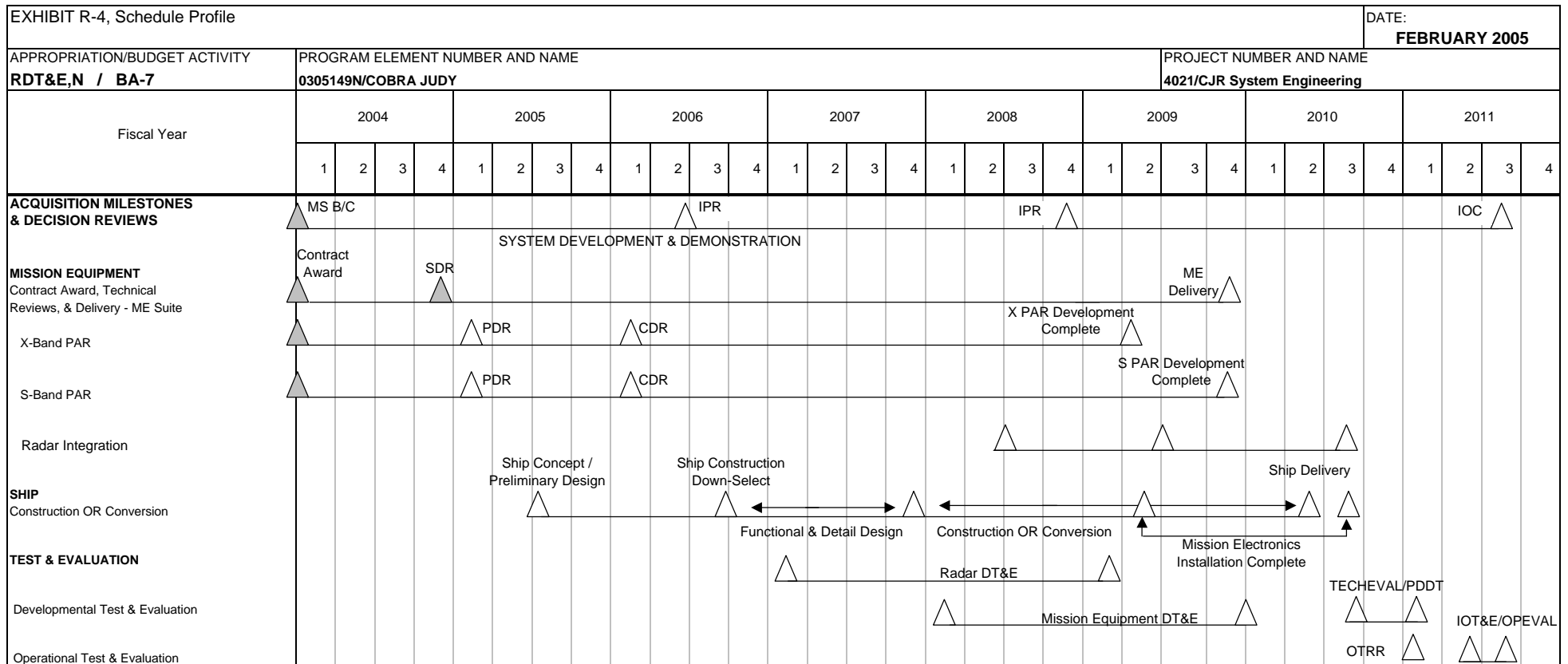
Exhibit R-3 Cost Analysis (page 2)													DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER			PROJECT NUMBER AND NAME									
RDT&E, N / BA-7			0305149N/COBRA JUDY			4021/CJR System Engineering									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation															
Operational Test & Evaluation															
Live Fire Test & Evaluation															
Test Assets															
Tooling															
GFE															
Award Fees															
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	Cont.	
Remarks:															
Contractor Engineering	WX/RX	Various	0.885	0.000	02/04	0.980	02/05	2.425	TBD	2.657	TBD	Continuing	Continuing	TBD	
	GSA	Computer Science Corp	2.725	0.430	02/04										
	GSA	Systems Planning & Analysis	1.900	0.000	N/A										
	CPAF	BAE Systems	0.000	3.986	02/04										
Government Engineering															
Program Management	CPAF	BAE Systems	1.490	3.986	02/04	0.979	02/05								
	CPFF	DTI	0.385	0.050	02/04										
Travel			0.050	0.050	02/04	0.050	11/05								
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			7.435	8.502		2.009		2.425		2.657		0.000	20.371	Cont.	
Remarks:															
Total Cost			50.510	68.519		92.712		121.261		132.832		Cont.	Cont.	Cont.	
Remarks:															

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* Not required for Budget Activities 1, 2, 3, and 6

R-1 SHOPPING LIST - Item No. 197

LEGEND			
CDR	Critical Design Review	OPEVAL	Operational Evaluation
DT&E	Developmental Test and Evaluation	OTRR	Operational Test Readiness Review
IOC	Initial Operational Capability	PAR	Phased Array Radar
IPR	Interim Progress Review	PDR	Preliminary Design Review
IOC	Initial Operational Capability	PDDT	Post Delivery Test & Trials
IOT&E	Initial Operational Test & Evaluation	SDR	System Design Review
MS	Milestone	TECHEVAL	Technical Evaluation

Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8
of 10)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0305149N/COBRA JUDY				PROJECT NUMBER AND NAME 4021/CJR System Engineering			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ACQUISITION MILESTONES & DECISION REVIEWS								
Interim Progress Review (IPR)			2Q		4Q			
System Development & Demonstration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
Initial Operational Capability (IOC)								3Q
MISSION EQUIPMENT								
Contract Award(s)	1Q							
System Design Review (SDR)	4Q							
Delivery						4Q		
X-Band Radar								
Preliminary Design Review (PDR)		1Q						
Critical Design Review (CDR)			1Q					
S-Band Radar								
Preliminary Design Review (PDR)		1Q						
Critical Design Review (CDR)			1Q					
Radar Integration								
Delivery					2Q	2Q	3Q	
SHIP								
Ship Concept/Preliminary Design		3Q						
Ship Construction Down Select			3Q-4Q	1Q-4Q				
Delivery							2Q	
TEST AND EVALUATION								
Radar Developmental Test & Evaluation (DT&E)				1Q - 4Q	1Q - 4Q	1Q		
Mission Equipment Developmental Test & Evaluation (DT&E)					1Q - 4Q	1Q - 4Q		
OTRR								1Q
TECHEVAL / Post Delivery Test & Trials							3Q-4Q	1Q
IOT&E/OPEVAL								2Q-3Q

R-1 SHOPPING LIST - Item No. 197

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 9 of 10)

CLASSIFICATION:

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EXHIBIT R-5, Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Contracts							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305149N / COBRA JUDY			
PROGRAM	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* This is a reimbursable contract that does not specify termination liability.

* Liability Costs:

* "LIMITATION OF FUNDS" (FAR 52.232-22)

* "LIMITATION OF COST" (FAR 52.232-20)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				R-1 ITEM NOMENCLATURE PE 0305160N Defense Meteorological Satellite Program (Space)				
BA-7								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	7.526	6.084	9.122	11.492	24.244	22.506	22.829	23.264
1452 Geosat Follow-on	0.976	0.888	1.235	1.133	1.157	1.179	1.206	1.229
0524 Navy METOC Support (Space)	3.666	3.214	7.887	10.359	23.087	21.327	21.623	22.035
9282 Radiation Hardened Vector Processor	2.884	1.982	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This program element supports the naval services' unique requirements in meteorological and oceanographic (METOC) space-based remote sensors. Navy participates in joint efforts to leverage national polar- orbiting and geostationary satellite programs to demonstrate and validate improved warfighter capabilities. These requirements include the need to insure a smooth transition from the current joint Defense Meteorological Satellite Program (DMSP) to the future National Polar-orbiting Operational Environmental Satellite System (NPOESS). NPOESS readiness and risk reduction preparations to develop hardware and software that will allow ground stations to receive, ingest and exploit the NPOESS Preparatory Project (NPP) data. Unique naval warfighter capabilities will be transitioned to NPOESS and planned upgrades to NPOESS. These requirements also include the development of alternatives and required capabilities to replace the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) satellite which was launched on February 10, 1998 and is nearing end of life. A replacement to GFO is required to ensure continued support to Naval operations.</p> <p>These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as transition to fleet applications associated with four satellite programs: 1) The converged National Polar-orbiting Operational Environmental Satellite System (NPOESS), 2) the joint Defense Meteorological Satellite Program (DMSP), 3) the jointly funded Coriolis satellite which includes the Navy WindSat and Air Force SMEI (Solar Mass Injection Imager) instruments, and 4) the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) funded entirely by Navy. GFO altimeter data are used to observe significant wave height, ocean thermal and acoustic structure. The Navy METOC Support (Space) project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, specifically participation in the calibration and validation of instruments and delivery of satellite products to the Fleet. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind, sea ice, and precipitation. WindSat is a partnered program that meets multiple Naval remote sensing requirements and provides a significant risk reduction for the NPOESS satellites' Conical Microwave Imaging Sensor (CMIS) instrument. A Congressional Add for a Radiation Hardened Vector Processor system to advance the science of spacecraft based data and imagery processing was provided in FY04. Both the GEOSAT and Navy METOC Support (Space) projects fulfill Navy's obligation to develop naval service-unique, mission critical space-based METOC technology.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: BA-7: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)				PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		3.666	3.214	7.887	10.359	23.087	21.327	21.623
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Navy Meteorological and Oceanographic (METOC) Support (Space) project provides for the naval services' unique sensor development efforts (WindSat and Advanced Altimeters) and Navy participation in Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I) and Special Sensor Microwave Imager Sounder (SSMIS) calibration efforts in support of the Fleet operational requirements. WindSat, an initiative begun in 1997, is a partnered program that meets multiple Naval remote sensing requirements and provides a significant risk reduction for the NPOESS satellites' Conical Microwave Imaging Sensor (CMIS) instrument. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind speed, sea ice, and precipitation. The Navy METOC Support (Space) project ensures the naval services' operational requirements are satisfied primarily through demonstration of technologies for inclusion on operational constellations such as DMSP, the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the National Oceanic and Atmospheric Administration's (NOAA) Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, NPOESS or GOES programs, and are in accordance with current inter-agency agreements. The project also provides for participation in efforts leading to operational improvements of satellite derived products and naval service participation as a voting member of the DMSP Configuration Control Board (CCB) and as a technical advisor to the NPOESS Joint Agency Requirements Group (JARG). Future funding plans respond to emerging Chief of Naval Operations requirements for Navy and Marine Corps METOC data.</p>								

R-1 SHOPPING LIST - Item No. 198

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)	PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)		
(U) B. Accomplishments/Planned Program				
WINDSAT	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	2.678	2.589	4.292	4.201
RDT&E Articles Quantity	1			
<p>FY04 Accomplishments: Supported WindSat wind speed and direction algorithm development. Supported WindSat on-orbit payload to provide Fleet ocean wind speed and direction data. Performed sensor calibration and data validation.</p> <p>FY05 Plans: Control Coriolis Satellite and monitor health of WindSat on-orbit payload that provides fleet ocean wind speed and direction data. Perform sensor calibration and data validation of environmental algorithms generated for Fleet use.</p> <p>FY06 Plans: Develop additional warfighter products (e.g. sea surface temperature) from the existing Windsat data stream. Control Coriolis Satellite and monitor health of the WindSat on-orbit payload that provides fleet ocean wind speed and direction data. Perform sensor calibration and data validation of environmental algorithms generated for Fleet use.</p> <p>FY07 Plans: Develop additional warfighter products (e.g. sea ice characterization) from the existing Windsat data stream. Control Coriolis Satellite and monitor health of the WindSat on-orbit payload that provides fleet ocean wind speed and direction data. Perform sensor calibration and data validation of environmental algorithms generated for Fleet use.</p>				
Calibration and Validation Activities	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.907	0.539	2.140	1.333
RDT&E Articles Quantity				
<p>FY04 Accomplishments: Continued to monitor Special Sensor Microwave/Imager (SSM/I) performance and continued validation support effort associated with the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave Imager Sounder (SSM/IS) and WindSat sensor. Conducted field experiments with Airborne Polarimetric Microwave Imaging Radiometer (APMIR) to use for calibration/validation of Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I), Special Sensor Microwave Imager Sounder (SSM/IS) sensors, and the WindSat sensor.</p> <p>FY05 Plans: Prepare and support launch of Defense Meteorological Satellite Program (DMSP) (F-17). Monitor performance of F-17's Special Sensor Microwave Imager Sounder (SSM/IS). Monitor SSM/I performance and continue calibration and validation support effort associated with the DMSP SSM/IS and WindSat sensor. Use Airborne Polarimetric Microwave Imaging Radiometer (APMIR) as an underflight resource for calibration/validation of Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I) and Special Sensor Microwave Imager Sounder (SSM/IS) sensors.</p> <p>FY06 Plans: Complete validation report for F17. Monitor Special Sensor Microwave/Imager (SSM/I) performance and continue calibration and validation support effort associated with the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave Imager Sounder (SSM/IS) and WindSat sensor.</p> <p>FY07 Plans: Prepare for launch of DMSP (F-18). Monitor Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I), Special Sensor Microwave Imager Sounder (SSM/IS) and WindSat sensor performance. Continue calibration and validation of Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I), Special Sensor Microwave Imager Sounder (SSM/IS) sensors and the WindSat Sensor.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)	PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)		
(U) B. Accomplishments/Planned Program				
Advanced Altimeter	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.081	0.086	1.455	4.825
RDT&E Articles Quantity				
<p>FY04 Accomplishments: Began support of Advanced Altimeter program development and trade studies.</p> <p>FY05 Plans: Continue support of Advanced Altimeter program development and trade studies.</p> <p>FY06 Plans: Perform Analysis of Alternatives including investigating the Centre Nationale Etudes Spatiale's (CNES) Altimeter Ka band (AltiKa) for littoral region application. Begin concept development and market research for Advanced Altimeter and future sensors.</p> <p>FY07 Plans: Perform field experiments to evaluate new techniques for littoral applications. Perform end to end architectural assessments and cost analysis to implement new techniques. Continue to support Analysis of Alternatives (AoA).</p>				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)	PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 05 President's Budget</td> <td style="text-align: right;">4.099</td> <td style="text-align: right;">3.317</td> <td style="text-align: right;">4.272</td> <td style="text-align: right;">4.707</td> </tr> <tr> <td>FY 06 OSD Budget</td> <td style="text-align: right;">3.666</td> <td style="text-align: right;">3.214</td> <td style="text-align: right;">7.887</td> <td style="text-align: right;">10.359</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">(0.433)</td> <td style="text-align: right; border-top: 1px solid black;">(0.103)</td> <td style="text-align: right; border-top: 1px solid black;">3.615</td> <td style="text-align: right; border-top: 1px solid black;">5.652</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.102</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-0.400</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Programmatic Adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">3.575</td> <td style="text-align: right;">5.549</td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.048</td> <td style="text-align: right;">0.082</td> </tr> <tr> <td style="padding-left: 20px;">Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.008</td> <td style="text-align: right;">0.021</td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfers</td> <td style="text-align: right;">-0.033</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.433</td> <td style="text-align: right; border-top: 1px solid black;">-0.103</td> <td style="text-align: right; border-top: 1px solid black;">3.615</td> <td style="text-align: right; border-top: 1px solid black;">5.652</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p style="margin-left: 20px;">Launch delays for Special Sensor Microwave Image Sounder (SSMIS) are a result of Air Force launch readiness delays.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p style="margin-left: 20px;">Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 05 President's Budget	4.099	3.317	4.272	4.707	FY 06 OSD Budget	3.666	3.214	7.887	10.359	Total Adjustments	(0.433)	(0.103)	3.615	5.652	Summary of Adjustments					Congressional Adjustments					Congressional Recissions		-0.102			Reprogrammings	-0.400				Programmatic Adjustments		-0.001	3.575	5.549	Economic Assumptions			0.048	0.082	Pricing Adjustments			-0.008	0.021	SBIR/STTR Transfers	-0.033				Subtotal	-0.433	-0.103	3.615	5.652
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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-3,4,7	PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)	PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>Not Applicable</p> <p>(U) E. ACQUISITION STRATEGY: *</p> <p>Naval service unique space based METOC requirements are not fully funded through Joint or converged national program plans. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment. WindSat provides risk reduction data and developmental technology that the NPOESS IPO will use in the development of the Conical Microwave Imager Sounder (CMIS). CMIS will collect global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. CMIS can be viewed as the follow-on instrument to the Special Sensor Microwave (SSM) instruments Navy developed for the Defense Meteorological Satellite Program (DSMP). It will be the primary instrument for satisfying 20 NPOESS Integrated Operational Requirements Document (IORD) Environmental Data Records (EDRs). These CMIS sensors will be acquired as part of the NPOESS architecture which supports these Navy requirements in the future. Maintenance of rigorous sensor calibration and data validation for operational SSM instruments continues along with algorithm development in support of fleet applications. The Advanced Altimeter technologies will improve radar altimeter resolution and areal coverage to support Navy requirements for sea surface topography measurement in the littorals.</p> <p>(U) F. MAJOR PERFORMERS: **</p> <p>FY-04 - FY07 - Naval Research Laboratory, Washington D.C. 49% Satellite Mission and Technical Support, Sensor Calibration and Data Validation</p> <p>* Not required for Budget Activities 1,2,3, and 6 ** Required for DON and OSD submit only.</p>		

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 6 of 26)

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Remarks:

*Indian Ocean METOC Imager (IOMI)

*Special Sensor Microwave Imager Sounder (SSMIS)

*Airborne Polarimetric Microwave Imaging Radiometer (APMIR)

Remarks: Future Mission Engineering will address Navy unique METOC requirements for littoral applications.

FEBRUARY 2005

Exhibit R-3 Cost Analysis (page 1)							DATE:					
							FEBRUARY 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			PE 305160N Defense Meteorological Satellite Program (S			0524 Navy METOC Support (Space)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Spacecraft Development	FF	Spectrum Astro, AZ	2.500	0.000		0.000		0.000		0.000	2.500	
Spacecraft Development	CP	TRW, Redondo Beach, CA	4.885	0.000		0.000		0.000		0.000	4.885	
Subtotal Product Development			7.385	0.000		0.000		0.000		0.000	7.385	
Windsat Cal Val & Operational Data/Coriolis Command & Control	CP	Various	75.630	2.486		4.207		3.992		Continuing	Continuing	
*IOMI PM and System Engineering	CP	Various	3.754	0.000		0.000		0.000		0.000	3.754	
*SSMIS Cal/Val	CP	Various	7.496	0.642		2.190		1.378		Continuing	Continuing	
*Future Mission Engineering	CP	Various		0.086		1.490		4.989		Continuing	Continuing	
*APMIR	CP	Various	1.590	0.000		0.000		0.000		0.000	1.590	
Subtotal Support			88.470	3.214		7.887		10.359		0.000	109.930	
Remarks: *Indian Ocean METOC Imager (IOMI) *Special Sensor Microwave Imager Sounder (SSMIS) *Airborne Polarimetric Microwave Imaging Radiometer (APMIR)												
Remarks: Future Mission Engineering will address Navy unique METOC requirements for littoral applications.												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 26)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-7			PROGRAM ELEMENT PE 305160N Defense Meteorological Satellite Program (Space)			PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			95.855	3.214		7.887		10.359		0.000	117.315	
Remarks:												

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* Airborne Polarimetric Microwave Imaging Radiometer(APMIR) Underflights will be conducted as part of the Special Sensor Microwave Image Sounder (SSMIS) Calibration and Validation.

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 9 of 26)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 26)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space				PROJECT NUMBER AND NAME 1452 GEOSAT		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.976	0.888	1.235	1.133	1.157	1.179	1.206	1.229
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This project provides a satellite-borne radar altimeter sensor to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Topography provides a unique and important data source in support of a number of naval service unique warfare areas such as anti-submarine and undersea warfare. GFO data are made freely available to other agencies such as the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) who value its input to studies involving global warming and climate change including El Nino Southern Oscillation (ENSO) effects. Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The GEOSAT Follow-On (GFO) satellite which was launched in February 1998 provides altimetry data until its end of life and if not replaced there will be a gap in altimetry coverage until an Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter is available.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space	PROJECT NUMBER AND NAME 1452 GEOSAT

(U) B. Accomplishments/Planned Program

On-Orbit Performance Incentive Fee	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.955	0.000	0.000	0.000
RDT&E Articles Quantity				

FY04 Accomplishments: Continued to fund on-orbit performance incentive.

Algorithm Development and Sensor Calibration and Data Validation	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.021	0.888	1.235	1.133
RDT&E Articles Quantity				

FY04 Accomplishments: Continued limited assessment of on-orbit system performance, conducted payload calibration and data validation, refined orbits and resolved performance anomalies.
FY05 Plans: Assess on-orbit system performance, conduct payload calibration and data validation, refine orbits and resolve performance anomalies.
FY06 Plans: Investigate and implement life extension solutions (e.g. develop work arounds for degraded components). Assess on-orbit system performance, conduct payload calibration and data validation, refine orbits and resolve performance anomalies. Develop GFO metrics for warfighter applications.
FY07 Plans: Implement additional life extension solutions. Assess on-orbit system performance, conduct payload calibration and data validation, refine orbits and resolve performance anomalies. Improve warfighter applications using GFO metrics.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 26)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space	PROJECT NUMBER AND NAME 1452 GEOSAT

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY 05 President's Budget	0.812	0.898	0.926	1.120
FY 06 President's Budget	0.976	0.888	1.235	1.133
Total Adjustments	0.164	(0.010)	0.309	0.013
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.010		
Reprogrammings	0.180			
Programmatic Adjustments			0.300	0.000
Economic Assumptions			0.012	0.014
Pricing Adjustments			-0.003	-0.001
SBIR/STTR Transfers	-0.016			
Subtotal	0.164	-0.010	0.309	0.013

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 13 of 26)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space	PROJECT NUMBER AND NAME 1452 GEOSAT
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>Not Applicable</p> <p>(U) E. ACQUISITION STRATEGY:</p> <p>The Naval services require a satellite-borne radar altimeter sensor on orbit to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Rigorous payload calibration, data validation and precision orbit determination maintain accuracy and usefulness of data. Continued refinement of sensor performance works toward satisfying the Navy and Marine Corps' littoral data requirements. As the GeoSat Follow-On satellite reaches its end of life, the program will transition to satisfy naval service unique altimetry requirements through a free-flying Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter.</p> <p>(U) F. MAJOR PERFORMERS:</p> <p>FY04 to FY07 - Ball Aerospace, Boulder, CO 50% Satellite Mission Support and on-orbit incentive fee through FY 2004; Computer Sciences Corporation (CSC), Monterey, CA 50% Sensor Calibration, Data Validation and Technical Support.</p>		

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Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDTE&E, N / BA-7			0305160N Navy Meteorological and Oceanographic Sensors - Space				1452 GEOSAT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software Development	CP	Ball Aerospace	85.984	0.000	N/A	0.000	N/A	0.000	N/A		85.984	
		Various	8.045	0.000	N/A	0.000	N/A	0.000	N/A		8.045	
Subtotal Product Development			94.029	0.000		0.000		0.000		0.000	94.029	
Remarks:												
Systems Engineering	CP	Ball Aerospace	2.672	0.300	N/A	0.400	N/A	0.370	N/A	CONTINUING	Continuing	
		Various	1.556	0.588	N/A	0.835	N/A	0.763	N/A	CONTINUING	Continuing	
Subtotal Support			4.228	0.888		1.235		1.133		0.000	7.484	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)								DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305160N Navy Meteorological and Oceanographic Sensors - Space				PROJECT NUMBER AND NAME 1452 GEOSAT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
										Continuing	Continuing	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			98.257	0.888		1.235		1.133		0.000	101.513	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 26)

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* Not required for Budget Activities 1, 2, 3, and 6

Exhibit R-4, Schedule Profile
(Exhibit R-4, page 17 of 26)

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*NOTE: Operational Satellite - no major milestones.

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Exhibit R-4a, Schedule Detail
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space			PROJECT NUMBER AND NAME 9282 Radiation Hardened Vector			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.884	1.982	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Radiation Hardened Vector Processor (RHVP) project will enable signal processing to be performed onboard a satellite rather than on the ground, reducing the bandwidth requirements of the downlink and increasing the information content of data that can be provided by a satellite payload. Radiation hardening for on-orbit processing of imagery and sensor data is a critical technology needed by ongoing Navy and national satellite programs.</p> <p>A Congressional Add for a Radiation Hardened Vector Processor system to advance the science of spacecraft based data and imagery processing was provided in FY04. A Congressional Add for Scalable Signal Processing Architecture to provide a dynamic solution for spacecraft based data and imagery processing was provided in FY05.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space	PROJECT NUMBER AND NAME 9282 Radiation Hardened Vector	

(U) B. Accomplishments/Planned Program

Radiation Hardened Vector/Scalable Signal Processor Architecture	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	2.884	1.982	0.000	0.000
RDT&E Articles Quantity				

FY04 - Developed software and integrated it with the processors selected in FY03.
FY05 - Develop and demonstrate scalable/reconfigurable architecture

	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDTE, N / BA-7	0305160N Navy Meteorological and Oceanographic Sensors - Space	9282 Radiation Hardened Vector		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget	2.967	0.000	0.000	0.000
FY 06 President's Budget	2.884	1.982	0.000	0.000
Total Adjustments	(0.083)	1.982	0.000	0.000
Summary of Adjustments				
Congressional Adjustments		2.000		
Congressional Recissions		-0.018		
Reprogrammings				
Programmatic Adjustments				
Economic Assumptions	-0.003			
Pricing Adjustments				
SBIR/STTR Transfers	-0.080			
Subtotal	-0.083	1.982		
(U) Schedule:				
Not Applicable				
(U) Technical:				
Not Applicable				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space	PROJECT NUMBER AND NAME 9282 Radiation Hardened Vector
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>Not Applicable</p> <p>(U) E. ACQUISITION STRATEGY:</p> <p>Not Applicable</p> <p>(U) F. MAJOR PERFORMERS:</p> <p>Not Applicable</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0305160N Navy Meteorological and Oceanographic Sensors - Space				9282 Radiation Hardened Vector					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software Development	CPFF	Valley Technologies Inc.	5.735	1.982	05/05	0.000	N/A	0.000	N/A		7.717	
Subtotal Product Development			5.735	1.982		0.000		0.000		0.000	7.717	
Remarks:												
Systems Engineering			0.000	0.000		0.000		0.000			CONT	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0305160N Navy Meteorological and Oceanographic Sensors - Space				9282 Radiation Hardened Vector					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			5.735	1.982		0.000		0.000		0.000	7.717	
Remarks:												

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 25 of 26)

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CLASSIFICATION:

[illegible]

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 26 of 26)

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CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				BA-7		R-1 ITEM NOMENCLATURE 0305188N - Joint C4ISR Battle Center (JBC)		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	43.392	44.238	55.326	50.906	46.370	47.648	48.655	49.597
2456 - Joint (C4ISR) Battle Center	8.074							
3011 - Joint Battle Management Command & Control	25.359							
3043 - Joint Interoperability and Integration	8.036	43.176	55.326	50.906	46.370	47.648	48.655	49.597
9431 - Joint Enroute Mission Planning and Rehearsal	1.923							
9649 - Ice Protection Technologies for UAVs		1.062						
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Capability plans to ensure the warfighter has interoperable capabilities.</p> <p>In addition, the Department of Defense expanded the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control. Funds for this increased effort are budgeted in projects 3011 and 3043.</p> <p>MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it provides rapid assessment of required C4ISR interoperability, as well as rapid insertion of capabilities across the DOTMLPF spectrum that meet the joint warfighter's need.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 2456 - Joint (C4ISR) Battle Center			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	8.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Battle Center (JBC) is the U.S. Joint Forces Command (JFCOM) and Chairman, Joint Chiefs of Staff (CJCS) facility for warfighter exploration and assessment of C4ISR capabilities. The Center provides the combatant commands, at the Joint Task Force (JTF) level, with a near-term joint assessment and experimental environment for the warfighter and technologist in support of Joint Vision 2020 (JV2020). It serves as the technical analysis and assessment agency for the Joint Requirement Operating Council (JROC) in determining C4ISR system "value-added" PRIOR to introduction to the Combatant Commanders and in advance of system fielding in operational environments. The intent is for the JBC to be a forcing function for joint synchronization and a means to foster rapid, near-term insertion of C4ISR technology. The mission of the JBC is to provide rapid assessment of required C4ISR interoperability and warfighter utility, join emerging C4ISR technology with new operational doctrine, and result in fielding C4ISR capabilities that meet the joint warfighter's needs.</p> <p>Realigned to PE 0604787 project 3021 beginning in FY05.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 2456 - Joint (C4ISR) Battle Center		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
CCs REQMTS ANALYSIS & CAPABILITY ASSESSMENTS	5.358			
RDT&E Articles Quantity				

FY04 ACCOMPLISHMENTS:
FY04 CCs Requirements Analysis and Capability Assessments: Analyzed near-term requirements from all Combatant Commanders, identified current mature technology available to address these requirements, performed comprehensive assessment for jointness, maturity, and warfighter utility. JBC projects were nominated to meet Combatant Commanders and Joint Force transformational requirements for the fiscal year. Those submitted to the Joint Staff for approval were subsequently approved for fiscal year programming.

	FY 04	FY 05	FY 06	FY 07
DOTMLP-F JROC RECOMMENDATIONS	0.648			
RDT&E Articles Quantity				

FY04 ACCOMPLISHMENTS:
FY04 DOTMLP-F JROC Recommendations: Provided Doctrine, Organizational, Training, Material, Leadership, Personnel, and Facilities (DOTMLP-F) recommendations on fielding strategies for Joint Requirement Oversight Council (JROC) endorsement. Recommendations were based on results from technology assessments, which identify relevant Service programs, doctrinal impacts, training implications, personnel requirements, etc.

	FY 04	FY 05	FY 06	FY 07
JOINT CONCEPT DEVELOPMENT & EQUIP SUP	1.564			
RDT&E Articles Quantity				

FY04 ACCOMPLISHMENTS:
FY04 Joint Concept Development and Experimentation Support: Supported the Unified Vision series of experiments and preparation of Olympic Challenge and Pinnacle series of events. Provided support for Limited Objective Experiments and Multi-national experimentation efforts.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 2456 - Joint (C4ISR) Battle Center		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
FEDERATED JOINT C2 LABORATORIES	0.504			
RDT&E Articles Quantity				
FY04 ACCOMPLISHMENTS: FY04 Federated Joint C2 Laboratories: The FJCL is a voluntary consortium of the JBC, the Service Battle Centers/Laboratories, Combatant Commanders, Agencies and other DoD organizations formed to promote near-term Joint C4ISR solutions to JTF operational needs/issues. The JBC, as chairman of the consortium, provided annual funding to support Service efforts through project experimentation/assessment. The CFBL is a consortium of nations and international organizations formed to evaluate combined C4ISR interoperability shortfalls, assess potential solutions through the utilization of agreed upon phased assessment procedures, reported the results of those assessments, and made recommendations in order to foster improved combined CIS for the explicit purpose of promoting near-term concepts and acceptance of solutions.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 2456 - Joint (C4ISR) Battle Center					

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget	8.521	0.000	0.000	0.000
FY 06 President's Budget	8.074	0.000	0.000	0.000
Total Adjustments	-0.447	0.000	0.000	0.000

Summary of Adjustments

SBIR	-0.231			
Reprogrammings	-0.216			
Subtotal	-0.447	0.000	0.000	0.000

(U) Schedule:
Not Applicable

(U) Technical:
Not Applicable

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										

(U) E. ACQUISITION STRATEGY: *

FY 2004. The JBC does not have a major contract for their RDT&E efforts. Equipment required to support our various projects are either bought from other service contracts and/or from the GSA schedule. Services are provided by other services and/or various vendors with expertise on a specific assessment we are accomplishing.

(U) F. MAJOR PERFORMERS:

None.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	25.359	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Capability plans to ensure the warfighter has interoperable capabilities.</p> <p>In addition, the Department of Defense expanded the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control. Funds for this increased effort are budgeted in projects 3011 and 3043.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
FY04 Combatant Commander Capability Office (C3O)	0.672			
RDT&E Articles Quantity				

FY04 Combatant Commander Capability Office (C3O): USJFCOM JI&I identified the Combatant Commanders Joint Battle Management Command and Control (JBMC2) requirements. The C3O collected Joint BMC2 information from each of the COCOM's, coordinated the prioritization of the information into COCOM's Joint BMC2 issue categories, and then worked with Services, and Agencies to identify and define DOTMLPF capability solutions. The C3O identified the operational problems applicable from the Joint Task Force down to the Tactical Level and those areas where assistance is necessary to achieve operational enhancements with US, Allied, and Coalition forces.

	FY 04	FY 05	FY 06	FY 07
FY04 Joint Operational Concepts and Integrated Architectures	1.735			
RDT&E Articles Quantity				

FY04 Joint Operational Concepts and Integrated Architectures: In support of Joint Battle Management Command and Control (JBMC2), USJFCOM JI&I was responsible for developing, maintaining, and updating Joint Mission Area Joint Operational Concepts and Integrated Architectures which supported the warfighter across the "Range of Military Operations." This Joint Operational Concept efforts described the doctrinally based tasks and activities, operational elements, and the time phased information flows required to accomplish Joint military operations. The Joint Integrated Architecture efforts were utilized to assess and analyze doctrine, Tactical Technical Procedures (TTPs), system and procedural interoperability, processes, and synchronization issues that impact Joint Forces. The Joint Operational Concepts and Integrated Architectures provided the baseline to identify warfighter requirements and was developed in close coordination with OSD, Joint Staff, COCOMs, and Services.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Operational Requirement and Function Constructs	0.454			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives to define operational requirements and functional constructs for Department of Navy Deployable Joint Command and Control which supported integration with Joint BMC2, Standing Joint Force Headquarters, and Service Battle Management Command and Control capabilities and goals.

	FY04	FY 05	FY 06	FY 07
Joint En-route Mission Planning and Rehearsal capabilities	0.500			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff which provided **Joint En-route Mission Planning and Rehearsal capabilities** across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY04	FY 05	FY 06	FY 07
Ability to Exchange Information Between Multiple Security Domains	2.212			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives which provided Regional and Functional Combatant Commanders the **ability to exchange information between multiple security domains** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Defense Collaborative Planning Tool Suite (DCTS) capabilities</td><td style="text-align: center;">0.916</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Defense Collaborative Planning Tool Suite (DCTS) capabilities	0.916				RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Defense Collaborative Planning Tool Suite (DCTS) capabilities	0.916																		
RDT&E Articles Quantity																			
FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives which provided Regional and Functional Combatant Commanders and Service Components Defense Collaborative Planning Tool Suite (DCTS) capabilities to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Dynamic Bandwidth Capabilities</td><td style="text-align: center;">0.269</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Dynamic Bandwidth Capabilities	0.269				RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Dynamic Bandwidth Capabilities	0.269																		
RDT&E Articles Quantity																			
FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff efforts which provided Regional and Functional Combatant Commanders the ability with dynamic bandwidth capabilities among United States Forces, Interagencies, Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control		

(U) B. Accomplishments/Planned Program

	FY04	FY 05	FY 06	FY 07
Integrated Service and Agencies Intelligence Capabilities	1.857			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives which provided Regional and Functional Combatant Commanders with **integrated Service and Agencies Intelligence capabilities** among United States Forces, Interagencies, Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY04	FY 05	FY 06	FY 07
Integrated Combat Identification and Situational Awareness Capabilities	1.501			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives which provided Regional and Functional Combatant Commanders with **integrated Combat Identification and Situational Awareness capabilities** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global war on Terrorism (GWOT) and in multiple theaters of operations.

	FY04	FY 05	FY 06	FY 07
Joint Task Force (JTF) Command and Control (C2) Legacy Shortfalls	2.473			
RDT&E Articles Quantity				

FY04: USJFCOM JI&I executed Joint Requirement Oversight Council endorsed prioritized recommendations to address critical Joint Task Force (JTF) Command and Control (C2) legacy shortfalls as tasked by the Deputy Secretary of Defense (DepSecDef). The recommendations resolve critical JTF interoperability and integration efforts associated with Command and Control (C2) between the Operational and Tactical Level of operations; Improvements in Situational Awareness (SA) between the Strategic, Operational, and Tactical Levels of war; Improvements in US Service integration of Intelligence, Surveillance, and Reconnaissance (ISR) assets utilized in Intelligence Preparation of the Battlefield (IPB) and Information Operations (IO); Improvements in Information Management (IM) exploitation at the Operational Level of war and protection against attack; Improvements in Information Assurance (IA) for coordination among and between Multi-National and Interagency efforts for on-going global operations.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 3011 - Joint Battle Management Command and Control		
(U) B. Accomplishments/Planned Program				
	FY04	FY 05	FY 06	FY 07
Common Operational and Tactical Pictures Capabilities	4.527			
RDT&E Articles Quantity				
FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff directives which provided Regional and Functional Combatant Commanders with Common Operational and Tactical Pictures capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY04	FY 05	FY 06	FY 07
Interoperable Joint Fires, Maneuver, and Intelligence Capabilities	3.022			
RDT&E Articles Quantity				
FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff efforts which provided Regional and Functional Combatant Commanders with Interoperable Joint Fires, Maneuver, and Intelligence capabilities among United States Forces, Interagencies, Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY04	FY 05	FY 06	FY 07
Integrated Joint Battle Management Command and Control Capabilities	5.221			
RDT&E Articles Quantity				
FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff efforts which provided Regional and Functional Combatant Commanders with integrated Joint Battle Management Command and Control capabilities among United States Forces, Interagencies, Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				

R-1 SHOPPING LIST - Item No. 199

CLASSIFICATION:

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)				PROJECT NUMBER AND NAME 3043 - Joint Interoperability and Integration		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		8.036	43.176	55.326	50.906	46.370	47.648	48.655
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Capability plans to ensure the warfighter has interoperable capabilities.</p> <p>In addition, the Department of Defense expanded the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control. Funds for this increased effort are budgeted in projects 3011 and 3043.</p> <p>Funds provided for Training Transformation will provide an overarching T2 architecture to provide interoperability of live, virtual and constructive training systems with C4ISR systems, distributed learning services, digital knowledge tools/libraries, and embedded training systems. Funds will complement JFCOM efforts to supply an overall architecture utilizing the mandated DoD Architecture Framework and compliant with the DoD Information Technology Standards Registry. This will support the design and implementation of an interoperable, globally distributed and deployable training/mission rehearsal capability consistent with Combatant Commanders' requirements.</p>								

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Integrated Combat Identification and Situational Awareness Capabilities	0.560	3.265	10.200	8.100
RDT&E Articles Quantity				
FY04-07 Integrated Combat Identification and Situational Awareness Capabilities: Implementation of these capabilities through ongoing strategic to tactical situational awareness initiatives are required to eliminate blue force fratricide. USJFCOM JI&I continues efforts to integrate among joint forces efforts to enhance blue force situational awareness. USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with interoperable combat identification and situational awareness capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY 04	FY 05	FY 06	FY 07
Interoperable Joint Fires and Intel Capabilities	0.594	13.500	15.900	13.500
RDT&E Articles Quantity				
FY04-07 Interoperable Joint Fires and Intel Capabilities: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with interoperable Joint Fires (Time Sensitive Targets, Precision Engagement, and Close Air Support) and intelligence capabilities among United States Forces, Interagencies, and Allied, and coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY 04	FY 05	FY 06	FY 07
Common Operational and Tactical Pictures Capabilities	0.438	6.227	10.100	10.000
RDT&E Articles Quantity				
FY04-07 Common Operational and Tactical Pictures Capabilities: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with Common Operational and Tactical Pictures capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Integrated Joint Battle Management C2 Capabilities	0.924	8.100	6.500	6.900
RDT&E Articles Quantity				
FY04-07 Integrated Joint Battle Management Command and Control Capabilities: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with integrated Joint Battle Management Command and Control capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations. This effort includes mission thread analysis, testing and engineering support.				
	FY 04	FY 05	FY 06	FY 07
Joint Operational Concepts and Integrated Architectures	0.584	3.400	3.500	3.500
RDT&E Articles Quantity				
FY04-07 Joint Operational Concepts and Integrated Architectures: In support of Joint Battle Management Command and Control (BMC2), USJFCOM JI&I is responsible to develop, maintain, and update Joint Mission Area Joint Operational Concepts and Integrated Architectures which support to the warfighter across the "Range of Military Operations." This Joint Operational Concept efforts will describe the doctrinally based tasks and activities, operational elements, and the time phased information flows required to accomplish Joint military operations. The Joint Integrated Architecture efforts will be utilized to assess and analyze doctrine, Concept of Operations (CONOPS), Tactical Technical Procedures (TTPs), system and procedural interoperability, processes, and synchronization issues that impact Joint Forces. The Joint Operational Concepts and Integrated Architectures provide the baseline to identify warfighter requirements and were developed in close coordination with OSD, Joint Staff, COCOMs, and Services.				
	FY 04	FY 05	FY 06	FY 07
Integrated Service and Agencies Intelligence Capabilities	0.681	3.000	3.000	2.440
RDT&E Articles Quantity				
FY04-07 Integrated Service and Agencies Intelligence Capabilities : USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with integrated Service and Agencies Intelligence capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Ability to Exchange Information Between Multiple Security Domain	0.924	1.500	2.163	2.110
RDT&E Articles Quantity				
FY04-07 Ability to Exchange Information Between Multiple Security Domains: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders the ability to exchange information between multiple security domains among United States Forces, Interagency, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY 04	FY 05	FY 06	FY 07
Define Operational Requirements and Functional Concepts	0.170	0.550	2.000	2.300
RDT&E Articles Quantity				
FY04-07 Define Operational Requirements and Functional Concepts: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to define operational requirements and functional concepts for Department of Navy Deployable Joint Command and Control which supports integration with Joint BMC2, Standing Joint Force Headquarters, and Service Battle Management Command and Control capabilities and goals.				
	FY 04	FY 05	FY 06	FY 07
En-route Mission Capabilities	1.070	2.000	0.600	0.600
RDT&E Articles Quantity				
FY04-07 Enroute Mission Capabilities: To continue efforts to provide command and control communications (both onsite and remote) capabilities across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.				

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Combatant Commander Capability Office (C3O)	0.292	1.634	0.163	0.158
RDT&E Articles Quantity				
FY04-07 Combatant Commander Capability Office (C3O): USJFCOM JI&I will continue to identify the Combatant Commanders' warfighting shortfalls. The C3O will collect and identify commander requirements, coordinate the prioritization of the information into COCOM issue categories, and subsequently work with Services and Agencies to identify and define DOTMLPF capability solutions. The C3O identifies the operational problems applicable from the Joint Task Force down to the Tactical Level and those areas where assistance is necessary to achieve operational enhancements with US, Allied, and Coalition forces.				
	FY 04	FY 05	FY 06	FY 07
Defense Collaborative Planning Tool Suite (DCTS) capabilities	0.340	0.000	0.000	0.000
RDT&E Articles Quantity				
FY04 Defense Collaborative Planning Tool Suite (DCTS) capabilities: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders and Service Components Defense Collaborative Planning Tool Suite (DCTS) capabilities to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.				
	FY 04	FY 05	FY 06	FY 07
Dynamic Bandwidth Capabilities	0.632	0.000	0.000	0.000
RDT&E Articles Quantity				
FY04 Dynamic Bandwidth Capabilities: USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders the ability with dynamic bandwidth capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.				

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Critical JTF Command and Control (C2) Legacy Shortfalls	0.827	0.000	0.000	0.000
RDT&E Articles Quantity				
FY04 Critical Joint Task Force (JTF) Command and Control (C2) Legacy Shortfalls: USJFCOM JI&I is continuing to execute Joint Requirement Oversight Council endorsed prioritized recommendations to address critical Joint Task Force (JTF) Command and Control (C2) legacy shortfalls as tasked by the Deputy Secretary of Defense (DepSecDef). The recommendations resolve critical JTF interoperability and integration efforts associated with Command and Control (C2) between the Operational and Tactical Level of operations; Improvements in Situational Awareness (SA) between the Strategic, Operational, and Tactical Levels of war; Improvements in US Service integration of Intelligence, Surveillance, and Reconnaissance (ISR) assets utilized in Intelligence Preparation of the Battlefield (IPB) and Information Operations (IO); Improvements in Information Management (IM) exploitation at the Operational Level of war and protection against attack; Improvements in Information Assurance (IA) for coordination among and between Multi-National and Interagency efforts for on-going global operations.				
	FY 04	FY 05	FY 06	FY 07
Development of the New Overarching T2 Architecture			1.200	1.300
RDT&E Articles Quantity				
FY06-07: SJFCOM JNTC will develop the new overarching T2 architecture to support the Joint training environment as tasked by the Deputy Secretary of Defense (DEPSECDEF) in the DoD T2 Implementation Plan. Mission planning and rehearsal capabilities will be developed within the operational environment utilizing rapid spiral development methodology to establish a real-time simulation emphasizing crisis-action planning, joint force organization, and mission rehearsal to meet Combatant Commanders requirements while providing a realistic system that enables the warfighter to learn, improvise, and adapt rapidly to constantly changing threats.				

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Summary of Adjustments																																																																																									
Congressional Adjustments		-0.384																																																																																							
Congressional Recissions		-0.009																																																																																							
Reprogrammings	-0.008																																																																																								
Programmatic Adjustments			11.209	7.288																																																																																					
Economic Assumptions			0.433	0.556																																																																																					
Pricing Adjustments			-0.191	-0.166																																																																																					
SBIR/STTR Transfers	-0.225																																																																																								
Subtotal	-0.233	-0.393	11.451	7.678																																																																																					
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>																																																																																
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																							
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 3043 - Joint Interoperability and Integration																									
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> <th><u>To Complete</u></th> <th><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>Not Applicable</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) E. ACQUISITION STRATEGY: *</p> <p>Not Applicable</p> <p>(U) F. MAJOR PERFORMERS:</p> <p>NONE</p>										<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	Not Applicable										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																					
Not Applicable																															
* Not required for Budget Activities 1,2,3, and 6																															

R-1 SHOPPING LIST - Item No. 199

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 3043 - Joint Interoperability and Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various DoD				0.778	10/05	0.842	10/06	Continuing	Continuing	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			0.000	0.000		0.778		0.842		0.000	1.620	0.000
Remarks:												
Development Support	Various	Various DoD				0.419	10/05	0.454	10/06	Continuing	Continuing	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.419		0.454		0.000	0.873	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 199

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROGRAM ELEMENT 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 3043 - Joint Interoperability and Integration					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Contractor Support	C-CPFF	SAIC	5.225	4.515	10/04	5.100	10/05	5.077	10/06	Continuing	Continuing	0.000
Government Support	MIPR	Various DoD	17.599	36.323	Various	46.559	Various	42.114	Various	Continuing	Continuing	0.000
Contractor Support	C-CPFF	ODU	1.530	1.886	04/05	2.010	04/06	1.951	04/07	Continuing	Continuing	0.000
Contractor Support	C-CPFF	GD	1.820	0.352	11/04	0.358	11/05	0.364	11/06	Continuing	Continuing	0.000
Travel		Various DoD	0.431	0.100	Various	0.102	Various	0.104	Various	Continuing	Continuing	0.000
												0.000
Subtotal T&E			26.605	43.176		54.129		49.610		Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			26.605	43.176		55.326		50.906		Continuing	Continuing	0.000
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 9431 - Joint Enroute Mission Planning and Rehearsal			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.923	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, was responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I worked closely with Combatant Commanders./Services/Agencies (C/S/A) to ensure warfighting deficiencies were identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) plans to ensure the warfighter has interoperable capabilities, and provided prioritized recommendations for Joint Requirement Oversight Council (JROC) endorsement. A USJFCOM JI&I transition fund supports the DOTMLPF synchronization plan concept allowing for rapid insertion of capabilities into the field while serving as a bridge until the next Service or Agency POM cycle. For future required capabilities critical to joint warfighting, USJFCOM JI&I was responsible for reviewing and confirming all Department of Defense (DoD) Capability Development Documents (CDDs), Capstone Requirement Documents (CRDs), Capability Production Documents (CPDs), and C4I Support Plans (C4ISPs) for interoperability key performance parameters (IKPPs), information exchange requirements (IERs), and operational architecture views (OVs) in accordance with Department of Defense and Chairman Joint Chiefs of Staff directions and instructions.</p> <p>Congressional Add Project 9431: JFCOM JI&I received \$2.0M in FY04 only for the Joint Enroute Mission Planning Rehearsal System - Near Term (JEMPRS NT).</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 9431 - Joint Enroute Mission Planning and Rehearsal															
(U) B. Accomplishments/Planned Program																	
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Joint En-route Mission Planning and Rehearsal Capabilities</td><td style="text-align: center;">1.923</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>				FY 04	FY 05	FY 06	FY 07	Joint En-route Mission Planning and Rehearsal Capabilities	1.923	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07													
Joint En-route Mission Planning and Rehearsal Capabilities	1.923	0.000	0.000	0.000													
RDT&E Articles Quantity																	
<p>FY04: USJFCOM JI&I executed Secretary of Defense and Chairman Joint Chiefs of Staff efforts which provided Joint En-route Mission Planning and Rehearsal capabilities across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.</p>																	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)			PROJECT NUMBER AND NAME 9649 - Ice Protection Technologies for UAVs			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.000	1.062	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Capability plans to ensure the warfighter has interoperable capabilities.</p> <p>In addition, Management Initiative Decision (MID) 912 signed by the Deputy Secretary of Defense 7 January 2003 expanded the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control.</p> <p>Congressional Add Project 9649: JFCOM JI&I received \$1.062M in FY05 for Ice Protection Technologies for Unmanned Aerial Vehicles (UAVs).</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)	PROJECT NUMBER AND NAME 9649 - Ice Protection Technologies for UAVs		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Ice Protection Technologies for UAVs	0.000	1.062	0.000	0.000
RDT&E Articles Quantity				
FY04: Funds transferred from RDT&E, Air Force to USJFCOM to oversee Ice Protection Technologies efforts for Unmanned Aerial Vehicles (UAVs).				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint Force Transformation (Integration & Refinement)			PROJECT NUMBER AND NAME 9649 - Ice Protection Technologies for UAVs		

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 05 President's Budget	0.000	0.000	0.000	0.000
FY 06 President's Budget	0.000	1.062	0.000	0.000
Total Adjustments	0.000	1.062	0.000	0.000

Summary of Adjustments				
Congressional Increases		1.100		
Congressional Rescissions		-0.038		
Total	0.000	1.062	0.000	0.000

(U) Schedule:
Not Applicable

(U) Technical:
Not Applicable

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										

(U) E. ACQUISITION STRATEGY: *

Not Applicable.

(U) F. MAJOR PERFORMERS:

None

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0305204N Tactical Unmanned Aerial Vehicles			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	85.652	76.985	99.349	71.938	31.458	13.287	12.786	13.391
2478 Tactical Control System	27.081	13.293	10.902	9.110	9.396	8.879	9.040	9.271
2768 VTUAV	36.021	59.129	77.601	53.172	12.253	1.659	1.978	2.314
2910 Joint Technology Center/ Sys Integ Lab	1.633	1.591	1.659	1.662	1.700	1.734	1.768	1.806
3135 USMC VUAV			9.187	7.994	8.109	1.015		
4012 Pioneer	14.002							
9432 Coastline Security Technology Initiative	1.728							
9434 Mini Detection Devices for UAV Payload	0.988							
9435 Precision Re-Supply Vehicle	4.199							
9650 Advanced Airship Flying Laboratory		2.972						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: These programs provide for the development of Tactical Unmanned Aerial Vehicle systems that provide warfighters with dedicated day/night Aerial Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities; and, intelligence, communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear/biological/chemical reconnaissance in limited adverse weather.</p> <p>Tactical Control System (TCS): TCS provides interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized for RSTA and combat assessment. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, implementation of NATO STANAG-4586 and through the use of the Tactical Common Data Link (TCDL). TCS provides connectivity to designated C4I systems for the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS and Fire Scout will implement NATO STANAG 4586 compliance, and weaponization and plug-and-play functionality. TCS will also be evaluated for all future Naval UAVs.</p> <p>Vertical Takeoff and Landing UAV (VTUAV): VTUAV (also referred to as the Fire Scout VTUAV) provides real-time and non-real-time intelligence, surveillance and reconnaissance data to tactical users, including line-of-sight tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay), without the use of manned aircraft or reliance on limited joint theater or national assets. The Fire Scout VTUAV air vehicle is designed for modular mission payloads, autonomous vertical launch and recovery, autonomous waypoint navigation, command override capability, and can operate from all air capable ships as well as confined area land bases. Interoperability is achieved through the Tactical Control System (TCS) software in the ground control station, NATO STANAG 4586, implementation, and through the use of the Tactical Common Data Link. The FY 2004 program funding completes initial shipboard testing and integration; begins design activities for system upgrades including weaponization, survivability, plug-and-play architecture, to meet fielding on LCS in FY08; and initiates the procurement of four RQ-8B EMD Air Vehicles (two in FY04, two in FY05).</p>								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 39)

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0305204N Tactical Unmanned Aerial Vehicles	

The U.S. Army has selected the Fire Scout RQ-8B as their Class IV UAV for the Future Combat System (FCS). Coordination with the U.S. Army FCS Program is on-going to investigate potential cost savings for both programs where system commonalities and common logistics support can be identified.

JTC/SIL: The Joint Technology Center/System Integration Laboratory provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.

USMC VUAV: The Vertical Take-Off and Landing (VTOL) Unmanned Aerial Vehicle (VUAV) is an expeditionary, tactical UAV system capable of operations from air capable ships and confined austere landing zones and is currently being procured by the United States Coast Guard.

Pioneer Unmanned Aerial Vehicle: The Pioneer Unmanned Aerial Vehicle (UAV) provides near real time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within line-of-sight (LOS) of a Ground Control Station (GCS) in limited weather, both day and night. Deployments have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM and OPERATION IRAQI FREEDOM (OIF). During OIF I both Marine Pioneer VMU systems were deployed and flew a total of 2357 hours in support of combat operations. The VMUs are currently deployed to Iraq and plan to continue operations as long as U.S. Forces are deployed. To date, the system has flown in excess of 26,000 flight hours.

Coastline Security Technology Initiative: Congressional Add - The Coastline Security Technology Initiative is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.

Miniature Detection Devices for Navy UAV Payload: Congressional Add - Continued development of lightweight, low power NBC sensors and isotope identification techniques utilizing MEMS technology and innovative detection devices to identify airborne chemical/biological threats and hazardous material.

Precision Re-Supply Vehicle: Congressional Add - Precision Re-Supply Vehicle.

Advance Airship Flying Laboratory: Congressional Add - For initial capability studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

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EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 2478 Tactical Control System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2478 Tactical Control System	27.081	13.293	10.902	9.110	9.396	8.879	9.040	9.271
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>In FY2004, \$2.4M Congressional Add for JOTBS, less \$.027M Congressional undistributed reductions. In FY2005 \$4.5M Congressional Add for JOTBS less \$.121M Congressional undistributed reductions.</p> <p>The Tactical Control System (TCS) is developing a standards based system that provides interoperability and commonality for C4I interfaces and command and control of Navy Unmanned Aerial Vehicles (UAVs) including the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, NATO STANAG-4586 and through the use of the Tactical Common Data Link (TCDL). TCS and Fire Scout will implement NATO STANAG 4586 compliance, and weaponization and plug-and- play functionality. TCS will also be evaluated for all future Naval UAVs.</p> <p>Provides a full range of scaleable UAV capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate UAV data from different UAV types for reconnaissance, surveillance, and combat assessment.</p> <p>Provides UAV command, control and processing from land and sea based ground control stations.</p> <p>TCS maximizes the use of contractor and government off-the shelf hardware and software whenever possible. TCS software is interoperable and is compliant with the OSD(C3I) Joint Technical Architecture (JTA) and Distributed Common Ground/Surface System (DCGS) standards.</p> <p>TCS development continues to meet the updated Fire Scout VTUAV ORD requirements and add key technologies that will be used by UAV Systems.</p>								

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 3 of 39)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
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B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">21.912</td><td style="text-align: center;">6.718</td><td style="text-align: center;">8.518</td><td style="text-align: center;">7.139</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	21.912	6.718	8.518	7.139	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Continue TCS integration with Fire Scout VTUAV development. Complete multi-vehicle UAV control. Initiate new TCS capabilities to support requirements for Littoral Combat Ship (LCS) integration. Initiate TCS NATO STANAG 4586 compliance. Continue TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems. Complete multi-vehicle UAV control FY2005 through FY2007: Continue new TCS capabilities to support requirements for Fire Scout VTUAV LCS integration. Continue standards compliance. Continue TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems.</div>																			
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Continue government engineering and program management support for TCS.</div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2478 Tactical Control System																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 04</th> <th style="text-align: right;">FY 05</th> <th style="text-align: right;">FY 06</th> <th style="text-align: right;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">27.106</td> <td style="text-align: right;">8.917</td> <td style="text-align: right;">9.293</td> <td style="text-align: right;">9.450</td> </tr> <tr> <td>Current BES/President's Budget:</td> <td style="text-align: right;">27.081</td> <td style="text-align: right;">13.293</td> <td style="text-align: right;">10.902</td> <td style="text-align: right;">9.110</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.025</td> <td style="text-align: right; border-top: 1px solid black;">4.376</td> <td style="text-align: right; border-top: 1px solid black;">1.609</td> <td style="text-align: right; border-top: 1px solid black;">-0.340</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.121</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other</td> <td></td> <td style="text-align: right;">-0.003</td> <td style="text-align: right;">-0.459</td> <td style="text-align: right;">-0.476</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.025</td> <td></td> <td style="text-align: right;">2.068</td> <td style="text-align: right;">0.136</td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">4.500</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.025</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">4.376</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">1.609</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.340</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">The current schedule reflects the restructured TCS program to address FY 2004 Congressional direction for a standards based system and to support the Navy Fire Scout VTUAV system with Littoral Combat Ship.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 40px;">Not applicable</p>						FY 04	FY 05	FY 06	FY 07	Funding:					Previous President's Budget:	27.106	8.917	9.293	9.450	Current BES/President's Budget:	27.081	13.293	10.902	9.110	Total Adjustments	-0.025	4.376	1.609	-0.340	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.121			Congressional rescissions					SBIR/STTR Transfer					Other		-0.003	-0.459	-0.476	Economic Assumptions	-0.025		2.068	0.136	Reprogrammings					Congressional increases		4.500			Subtotal	-0.025	4.376	1.609	-0.340
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2478 Tactical Control System
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <p>Not Applicable</p> <p>E. ACQUISITION STRATEGY:</p> <p>These acquisitions will be made by modifying the competitively awarded TCS contract, awarded to Raytheon in 2000; as well as, through the TCS Basic Order Agreement with Raytheon, both of which are cost-plus contracts. TCS development and testing will be accomplished via a Government/Industry team.</p>		

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	Raytheon, Falls Church, VA	75.321	3.550	11/04	6.934	11/05	5.193	11/06	13.401	104.399	104.399
Ancillary Hardware Development	WX	Various	5.761								5.761	
Aircraft Integration											0.000	
Ship Integration											0.000	
Systems Engineering	WX	NAWCAD, Pax River, MD	2.321								2.321	
Systems Engineering	WX	NSWC-Dahlgren, VA	4.634								4.634	
Training Development	WX	NSWC-IH, Indian Head, MD	5.584								5.584	
Licenses											0.000	
Primary Hardware Development	C/CPAF	NGC-Ryan, San Diego, CA	1.571								1.571	1.571
GFE											0.000	
Award Fees	C/CPAF	Raytheon, Falls Church, VA	7.005	1.970	06/05	0.426	06/06	0.745	06/07	1.608	11.754	11.754
Subtotal Product Development			102.197	5.520		7.360		5.938		15.009	136.024	
Remarks:												
Development Support											0.000	
Software Development	MIPR	JTC/SIL, Redstone, AL	3.800								3.800	
Integrated Logistics Support	WX	Various	1.630								1.630	
Configuration Management											0.000	
Technical Data	WX	Various	2.755								2.755	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			8.185	0.000		0.000		0.000		0.000	8.185	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 39)

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Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	JITC, Indian Head, MD	1.140	0.031	11/04	0.030	11/05	0.030	11/06	Continuing	Continuing	
Developmental Test & Evaluation	WX	NSWC, Dahlgren, VA	2.051								2.051	
Operational Test & Evaluation	WX,MIPR	Various	1.480								1.480	
Test Assets	WX	NSWC, Dahlgren, VA	2.500								2.500	
Test Assets	WX	USJFCOM, Norfolk, VA	6.078	4.379							10.457	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			13.249	4.410		0.030		0.030		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	C/FFP	Various	0.100	0.610	12/04	0.625	12/05	0.641	12/06		1.976	1.976
Government Engineering Support	WX	NAWCAD, Pax River, MD	4.083	1.334	12/04	1.462	11/05	1.144	11/06	Continuing	Continuing	
Government Engineering Support	WX	SPAWAR, San Diego, CA	0.050	0.090	11/04	0.096	11/05	0.097	11/06	Continuing	Continuing	
Program Management Support	WX	Various	2.631	1.314	11/04	1.314	11/05	1.244	11/06	Continuing	Continuing	
Travel	WX	Various	1.489	0.015	11/04	0.015	11/05	0.016	11/06	Continuing	Continuing	
SBIR Assessment											0.000	
Subtotal Management			8.353	3.363		3.512		3.142		Continuing	Continuing	
Remarks:												
Total Cost			131.984	13.293		10.902		9.110		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 39)

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EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-7										0305204N Tactical Unmanned Aerial Vehicles										2478 Tactical Control System												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones				TCS SRR ▲		TCS CDR △												TCS/FS IOC ★														
Completion of current TCS/FS Requirements																																
New Requirements (STANAG 4586, Weaponization, Plug & Play) Development																																
TCS GHMD Requirements Identification																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
Software/Updates																																
Software Deliveries																																

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 9 of 39)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 39)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 2768 VTUAV			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2768 VTUAV	36.021	59.129	77.601	53.172	12.253	1.659	1.978	2.314
RDT&E Articles Qty	2	2	3					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Fire Scout Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide real-time intelligence, surveillance and reconnaissance data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline Fire Scout VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The Fire Scout VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, a heavy fuel engine and the ability to incorporate Electro-Optical/Infrared/Laser Designator-Laser Range Finder modular mission payload. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, will implement STANAG-4586 and through the use of the Tactical Common Data Link (TCDL). The data from the Fire Scout VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence system architectures and protocols.

A Fire Scout VTUAV system is composed of three air vehicles, three electro-optical/infrared/laser designator-rangefinder payloads, two Ground Control Stations (with TCS and TCDL integrated for interoperability), one UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment.

A program to continue development of the Fire Scout VTUAV to meet LCS mission requirements was initiated in FY04. Engineering and Manufacturing Development (EMD) is continuing in FY04 and will include design activities for system upgrades, testing aboard HSV-2, and TCS integration. Fabrication of the RQ-8A LRIP 1 system was completed in FY03. Procurement of two EMD RQ-8B Air Vehicles was initiated in FY04, and two additional EMD RQ-8B Air Vehicles are planned for FY05. Procurement of three RQ-8B LRIP Air Vehicles is planned starting in FY06. As of 12 January 2005, Fire Scout VTUAV has completed 142 flights, accumulating more than 120 flight hours.

The U.S. Army has selected the Fire Scout RQ-8B as their Class IV UAV for the Future Combat System (FCS). Coordination with the U.S. Army FCS Program is on-going to investigate the potential cost savings for both programs where system commonalities and common logistics support can be identified.

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Exhibit R-2a, RDTE Project Justification
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RDT&E Articles Quantity	2	2	3																
<div>Initiate incremental procurement and integration of four EMD RQ-8B Air Vehicles and three LRIP RQ-8B Air Vehicles to support the Engineering and Manufacturing Development (EMD) program. Continue to completion EMD of the Fire Scout VTUAV system. Complete developmental testing, and complete combined developmental and operational testing.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.100</td><td style="text-align: center;">2.900</td><td style="text-align: center;">4.600</td><td style="text-align: center;">7.670</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.100	2.900	4.600	7.670	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.100	2.900	4.600	7.670															
RDT&E Articles Quantity																			
<div>Continue ILS, technical data, and training system development. Procurement of trainers and spares to support OPEVAL.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.500</td><td style="text-align: center;">1.196</td><td style="text-align: center;">2.500</td><td style="text-align: center;">3.093</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.500	1.196	2.500	3.093	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.500	1.196	2.500	3.093															
RDT&E Articles Quantity																			
<div>Complete developmental testing of the Fire Scout VTUAV system. Complete combined developmental and operational testing TECHEVAL and planning for OPEVAL.</div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2768 VTUAV																	
B. Accomplishments/Planned Program (Cont.)																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.371	8.800	10.400	4.554															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 80px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2768 VTUAV		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	36.050	42.876	58.815	44.865
Current BES/President's Budget:	36.021	59.129	77.601	53.172
Total Adjustments	-0.029	16.253	18.786	8.307
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.535		
Congressional rescissions				
SBIR/STTR Transfer				
Other		-0.012	15.945	7.669
Economic Assumptions	-0.029		2.841	0.638
Reprogrammings				
Congressional increases		16.800		
Subtotal	-0.029	16.253	18.786	8.307

Schedule:

Following schedule changes are due to technical changes discussed below:

Contract award for incremental procurement of two Fire Scout RQ-8B EMD air vehicles was awarded 2Q, FY04. Delivery begins in 4Q FY06. 1Q schedule slip for EMD technical review. Procurement of two Fire Scout RQ-8B EMD vehicles is planned for 2Q FY05. Procurement of three Fire Scout RQ-8B LRIP air vehicles planned for 2Q, FY06. Combined DT/OT planned for 3Q-4Q, FY07. OPEVAL planned for 1Q-2Q, FY08. IOC planned for 3Q, FY08. MS III planned for 3Q, FY08.

Technical:

Fire Scout Air Vehicle configuration changed from RQ-8A to RQ-8B during FY04 to improve endurance and address new requirements in support of the Littoral Combat Ship program. Additional EMD effort required for the RQ-8A to RQ-8B configuration change.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 2768 VTUAV				
D. OTHER PROGRAM FUNDING SUMMARY:									
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete
<u>Line Item No. & Name</u>									Total Cost
APN: 044300 VTUAV				38.184	54.266	66.777	100.273	100.371	
APN Initial Spares: 060510 VTUAV				5.335	2.520	2.376	1.895		
E. ACQUISITION STRATEGY:									
Continue sole source to Northrop Grumman to continue Fire Scout EMD to increase payload capacity. Design and development of an improved Fire Scout System initiated in FY04 to support the Littoral Combat Ship Program. Four EMD RQ-8B Air Vehicles and three LRIP RQ-8B Air Vehicles will be procured. Full Rate Production and IOC will follow completion of OPEVAL.									

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			2768 VTUAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF/C	NGC-Ryan, San Diego, CA	177.045	46.233	03/05	60.101	11/05	37.855	11/06	5.900	327.134	327.134
Ancillary Hardware Development											0.000	
Aircraft Integration	WX	NSWC Indian Head, MD	0.152								0.152	
Ship Integration	PD	NAVSEA, Arlington, VA	3.466								3.466	
Ship Integration											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Primary Hardware Development											0.000	
GFE											0.000	
Award Fees	C/CPIF	NGC-Ryan, San Diego, CA	4.456								4.456	4.456
Subtotal Product Development			185.119	46.233		60.101		37.855		5.900	335.208	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	WX	Various	8.723	2.900	11/04	4.600	11/05	7.670	11/06	Continuing	Continuing	
Configuration Management											0.000	
Technical Data	WX	NSWC, Crane, IN	0.900								0.900	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			9.623	2.900		4.600		7.670		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 39)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			2768 VTUAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC-AD, Pax River, MD	5.034								5.034	
Developmental Test & Evaluation	WX	Various	1.691	1.196	11/04	2.500	11/05	3.093	11/06	Continuing	Continuing	
Operational Test & Evaluation	WX	NAWC-WD, China Lake, CA	1.512								1.512	
Test Assets											0.000	
Test Assets											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			8.237	1.196		2.500		3.093		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Government Engineering Support	WX	Various	12.220	4.150	11/04	5.550	11/05	2.134	11/06	Continuing	Continuing	
Program Management Support	WX	Various	8.272	4.600	11/04	4.800	11/05	2.370	11/06	Continuing	Continuing	
Travel	WX	Various	0.517	0.050	11/04	0.050	11/05	0.050	11/06	Continuing	Continuing	
SBIR Assessment											0.000	
Subtotal Management			21.009	8.800		10.400		4.554		Continuing	Continuing	
Remarks:												
Total Cost			223.988	59.129		77.601		53.172		Continuing	Continuing	
Remarks:												

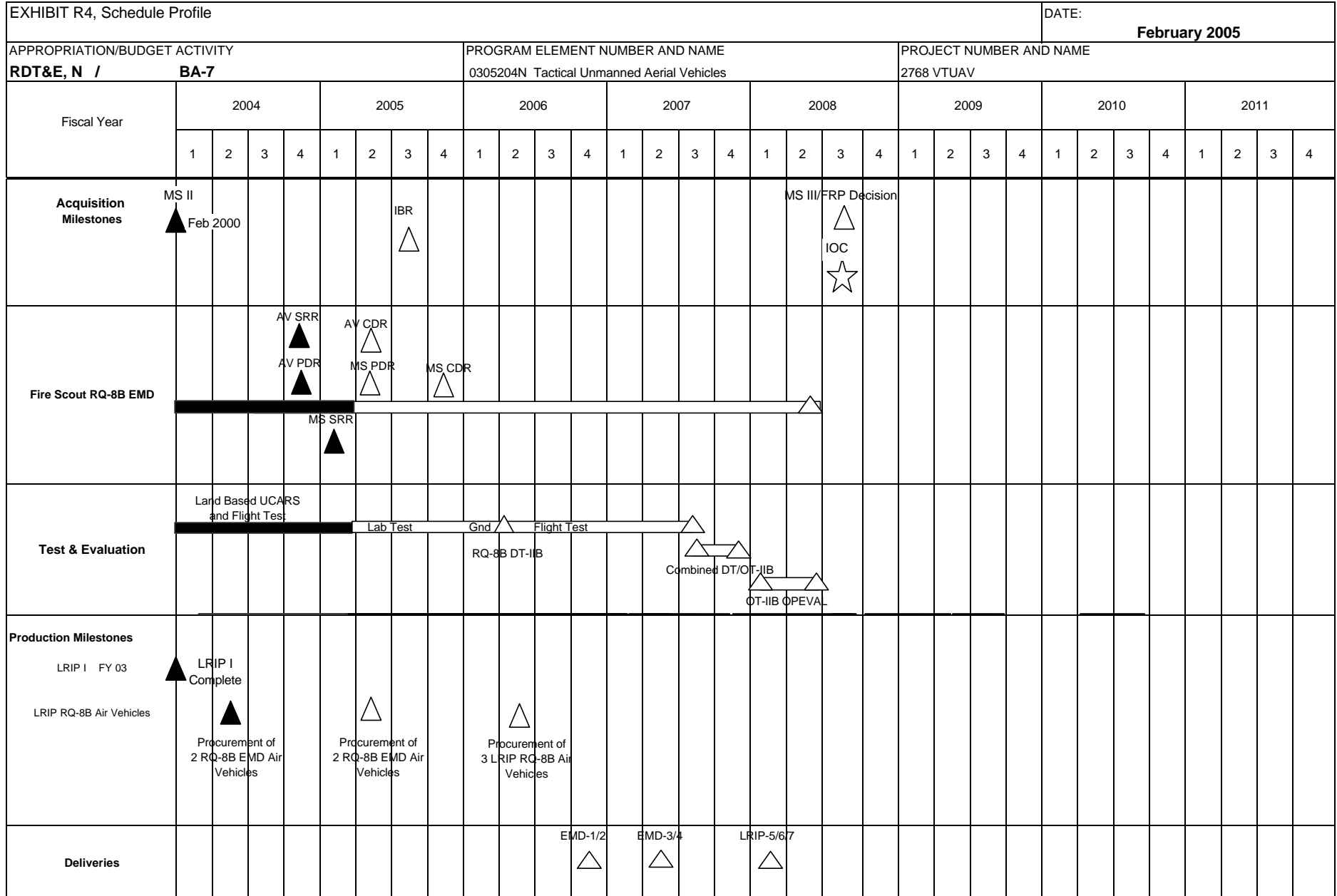
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 17 of 39)

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 18 of 39)

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 201

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 19 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2910 Joint Technology Center/Sys Integ Lab	1.633	1.591	1.659	1.662	1.700	1.734	1.768	1.806
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support all UAV programs within the services. The mission includes Service-specific and Joint ISR programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4I optimization. The cornerstone of its diverse tool set is the Multiple Unified Simulation Environment (MUSE), which is the Department's simulation/training system of choice for ISR systems, sensors, and platforms.

The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, Tactics, Techniques, and Procedures (TTP) development and refinement, conduct emerging concepts experimentation, and C4I optimization within warfighting exercises and experiments. It is the only simulation system used by the Combat Commanders and Joint Services to support command and battle staff ISR training; there is no alternative available to satisfy those requirements.

The MUSE also creates a realistic operational environment that supports an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4I optimization.

MUSE is currently in use within all services and unified commands simulating PREDATOR, GLOBAL HAWK, HUNTER, Shadow 200, and PIONEER UAVs, National and commercial satellite collectors, P-3, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4I systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture.

Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4I and training environments of supported units. The Tactical UAV (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer and plans to incorporate into Fire Scout GCS. Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 20 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.311	0.271	0.339	0.342															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Laboratory Sustainment includes government management, contracts administration, cost accounting, configuration management, administrative support of the lab, MUSE architecture development, property management/accountability, and procurement of equipment.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.822</td><td style="text-align: center;">0.820</td><td style="text-align: center;">0.820</td><td style="text-align: center;">0.820</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.822	0.820	0.820	0.820	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.822	0.820	0.820	0.820															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">MUSE Development - Initial development of Fire Scout model, continued Common Trainer for current platforms, continue to provide ISR simulation support to major exercises and demonstrations, complete integration of TENCAP simulation into PC-based MUSE, complete development of virtual SIGINT platform, continue development of Laser Designator capability, continued upgrade for National Space Assets Enhancements, continue C4I Enhancements, continued initial Fixed Target Damage simulation.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.500</td><td style="text-align: center;">0.500</td><td style="text-align: center;">0.500</td><td style="text-align: center;">0.500</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.500	0.500	0.500	0.500	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.500	0.500	0.500	0.500															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Maintenance, Licenses and Equipment Purchases includes the day-to-day maintenance of lab equipment, license maintenance and license renewals from vendors for individual pieces of equipment, purchases of equipment to support the MUSE, and purchases to upgrade the MUSE capability.</div>																			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	1.633	1.646	1.645	1.642
Current BES/President's Budget:	1.633	1.591	1.659	1.662
Total Adjustments	0.000	-0.055	0.014	0.020
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.055		
Congressional rescissions				
SBIR/STTR Transfer				
Other			-0.002	-0.001
Economic Assumptions			0.016	0.021
Reprogrammings				
Congressional increases				
Subtotal	0.000	-0.055	0.014	0.020

Schedule:

Not Applicable

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <p>Not Applicable</p> <p>E. ACQUISITION STRATEGY:</p> <p>Not Applicable</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	Redstone Arsenal, AL	2.678	0.820	11/04	0.820	11/05	0.820	11/06	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Integration											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Primary Hardware Development											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			2.678	0.820		0.820		0.820		Continuing	Continuing	
Remarks:												
Development Support	MIPR	Redstone Arsenal, AL	1.900	0.500	11/04	0.500	11/05	0.500	11/06	Continuing	Continuing	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.900	0.500		0.500		0.500		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Test Assets											0.000	
Test Assets											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Contractor Engineering Support	MIPR	Redstone Arsenal, AL	0.990	0.271	11/04	0.339	11/05	0.342	11/06	Continuing	Continuing	
Government Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.990	0.271		0.339		0.342		Continuing	Continuing	
Remarks:												
Total Cost			5.568	1.591		1.659		1.662		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 25 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 3135 USMC VUAV			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
3135 USMC VUAV			9.187	7.994	8.109	1.015		
RDT&E Articles Qty			2					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Vertical Take-Off and Landing (VTOL) Unmanned Aerial Vehicle (VUAV) is an expeditionary, tactical UAV system capable of operations from air capable ships and confined austere landing zones and is currently being procured by the United States Coast Guard.

This system will maintain current Marine Corps warfighter capabilities as UAV assets operational availability decreases in the 2009 to 2015 timeframe. With capabilities that surpass the current Marine Corps Pioneer UAV, the VUAV system will provide battlespace awareness for the Marine commanders while simultaneously allowing the Marine Corps to develop new concepts of operations for the integration of the next generation UAVs with emerging doctrine.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 26 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 3135 USMC VUAV		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.000	
RDT&E Articles Quantity				

Development of a Marine specific ground control station (GCS).

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.100	1.100
RDT&E Articles Quantity				

Integration of the VUAV system with Marine command and control systems.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			6.087	6.894
RDT&E Articles Quantity			2	

Buy two off-the-shelf air vehicles for test and abbreviated flight certification with the Marine specific GCS, and Program Management Support, to include two test articles and associated long lead items.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																																																																											
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 3135 USMC VUAV																																																																											
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 04</th> <th style="text-align: right; width: 10%;">FY 05</th> <th style="text-align: right; width: 10%;">FY 06</th> <th style="text-align: right; width: 10%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">9.187</td> <td style="text-align: right;">7.994</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">9.187</td> <td style="text-align: right; border-top: 1px solid black;">7.994</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other</td> <td></td> <td></td> <td style="text-align: right;">9.187</td> <td style="text-align: right;">7.994</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">9.187</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">7.994</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable</p> <p style="margin-top: 40px;">Technical: Not Applicable</p>				FY 04	FY 05	FY 06	FY 07	Funding:					Previous President's Budget:	0.000	0.000	0.000	0.000	Current BES/President's Budget:	0.000	0.000	9.187	7.994	Total Adjustments	0.000	0.000	9.187	7.994	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions					Congressional rescissions					SBIR/STTR Transfer					Other			9.187	7.994	Economic Assumptions					Reprogrammings					Congressional increases					Subtotal	0.000	0.000	9.187	7.994
	FY 04	FY 05	FY 06	FY 07																																																																									
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 3135 USMC VUAV				
D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u> <u>Total</u> <u>Cost</u>
APN: 044600 USMC VUAV				12.895	15.148	17.184			
E. ACQUISITION STRATEGY:									
<p>VUAV will leverage the Coast Guard developed air vehicle linked to a Marine specific ground control station (GCS). The GCS development, system purchase and integration with Marine Corps command and control systems will be conducted with the Coast Guard Deepwater acquisition program. By utilizing the economy act and teaming with the Coast Guard Deepwater program both services will benefit from parallel development activities as well as cost reductions relating from economy of scale. Development and integration of the Marine specific components of the UAV system will be conducted by Bell-Textron Industries. Aviation specific test and engineering support will be contracted from NAVAIR as needed.</p>									

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 3135 USMC VUAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	Bell-Textron, Ft Worth TX				2.600	12/05	0.400	10/06	1.000	4.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Integration											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Primary Hardware Development											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		2.600		0.400		1.000	4.000	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000			0.000	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 30 of 39)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			3135 USMC VUAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	Bell-Textron, Ft Worth TX				5.800	12/05	6.700	10/06	3.000	15.500	
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Test Assets											0.000	
Test Assets											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		5.800		6.700		3.000	15.500	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Government Engineering Support	TBD	TBD				0.500	12/05	0.700	10/06	5.000	6.200	
Program Management Support	TBD	TBD				0.287	12/05	0.194	10/06	0.124	0.605	
Travel											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.787		0.894		5.124	6.805	
Remarks:												
Total Cost			0.000	0.000		9.187		7.994		9.124	26.305	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 31 of 39)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
																								February 2005											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0305204N Tactical Unmanned Aerial Vehicles												3135 USMC VUAV											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones																																			
GCS Development																																			
Integration w/USMC C2																																			
Test & Evaluation Milestones																																			
Production of test articles																																			
Delivery of Air Vehicles																																			
Delivery of GCS																																			
Deliveries																																			

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 33 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 9650 Advanced Airship Flying Laboratory			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9650 Advanced Airship Flying Lab		2.972						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add of \$3.0M less \$.028M Congressional undistributed reductions . The Navy needs efficient airborne platforms for the development and test of transformational airborne sensors and platforms. Airships boast very low cost-per-hour operation and can economically support those portions flight-testing that concentrate on sensor performance (vice platform integration).

Develop an airship-based platform for affordable testing of transformational airborne sensors in a stable, vibration-free, laboratory-like environment. Conduct initial capability studies for development of a modernized naval airship featuring contemporary composites, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and Persistent broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 34 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 9650 Advanced Airship Flying Laboratory		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		2.650		
RDT&E Articles Quantity				
Develop new technologies to advance the state-of-the-art of modern airships such as: digital automated flight controls, bow thrusters, and heavy fuel engines.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.322		
RDT&E Articles Quantity				
Government Engineering Support, contractor support services, and travel.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 9650 Advance Airship Flying Laboratory																																																																												
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	FY 04	FY 05	FY 06	FY 07																																																																										
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 9650 Advanced Airship Flying Laboratory
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <p>Not Applicable</p> <p>E. ACQUISITION STRATEGY:</p> <p>Not Applicable</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			9650 Advanced Airship Flying Laboratory						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	IDIQ	ARNIC, Annapolis, MD		2.650	03/05					0.000	2.650	2.650
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Integration											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Primary Hardware Development											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	2.650		0.000		0.000		0.000	2.650	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 9650 Advanced Airship Flying Laboratory						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Test Assets											0.000	
Test Assets											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD Pax River, MD		0.322	03/05						0.322	
Program Management Support											0.000	
Travel											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.322		0.000		0.000		0.000	0.322	
Remarks:												
Total Cost			0.000	2.972		0.000		0.000		0.000	2.972	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 39 of 39)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305205N Endurance Unmanned Aerial Vehicles			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	95.181	85.799	0.000	29.339	121.388	253.422	242.223	127.397
3061 Global Hawk Maritime Demo Sys	75.375							
4020 BAMS UAV	19.806	85.799	0.000	29.339	121.388	253.422	242.223	127.397

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
 This program provides for the development of High Altitude Endurance (HAE) Unmanned Aerial Vehicle (UAV) Systems for DoD that provide warfighters with the dedicated capability for Broad Area Maritime Surveillance as a standoff persistent, Intelligence, Surveillance and Reconnaissance (ISR) asset. This program includes:

Global Hawk Maritime Demonstration (GHMD) System. The Secretary of the Navy directed procurement of two USAF Global Hawk Aircraft to include the air vehicle and associated support equipment, integration of maritime payloads, SIGINT and communications for demonstration and experimentation purposes. The GHMD System will serve as fleet asset for the development of UAV Concept of Operations (CONOPS), tactics, techniques and procedures and cultural building for Navy High Altitude Endurance (HAE) UAVs. This project was initiated in FY 2003 in PE 0305204N, Tactical Unmanned Aerial Vehicles.

Broad Area Maritime Surveillance (BAMS) UAV has been designated a pre-Major Defense Acquisition Program (MDAP) for the development and fielding of a Long Endurance UAV for the maritime/littoral environment. The BAMS UAV will provide Carrier Strike Group (CSG), Expeditionary Strike Group (ESG) and Joint Forces Maritime Component Commanders (JFMCC) with a persistent maritime Intelligence, Surveillance and Reconnaissance (ISR) capability. BAMS UAV will consist of air vehicles, payloads and ground/surface systems. The BAMS UAV program is structured to meet the need for persistent maritime ISR and to complement other ISR platforms.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 9)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 4020 BAMS UAV			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
4020 BAMS UAV	19.806	85.799		29.339	121.388	253.422	242.223	127.397
RDT&E Articles Qty					2			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Broad Area Maritime Surveillance (BAMS) UAV has been designated a pre-Major Defense Acquisition Program (MDAP) for the development and fielding of a Long Endurance UAV for the maritime/littoral environment. The BAMS UAV will provide Carrier Strike Group (CSG), Expeditionary Strike Group (ESG) and Joint Forces Maritime Component Commanders (JFMCC) with a persistent maritime Intelligence, Surveillance and Reconnaissance (ISR) capability. BAMS UAV will consist of air vehicles, payloads and ground/surface systems. The BAMS UAV program is structured to meet the need for persistent maritime ISR and to complement other ISR platforms.

The BAMS UAV ORD was signed by the CNO 17 May 2004. Two mission needs statement (MNS) Support the requirement; 1) BAMS and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition (RSTA) Capability MNS.

The BAMS UAV will be an evolutionary based acquisition and will use a competitive acquisition strategy. The program will be conducting pre-systems acquisition activities prior to MS B. These activities will consist of documentation development, demonstrations, and study contracts.

FY 2005 funding will be used to forward finance FY 2006 requirements.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 2 of 9)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 4020 BAMS UAV																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">47.500</td><td></td><td style="text-align: center;">10.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		47.500		10.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		47.500		10.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Industry contracts will be used to conduct systems trade studies and obtain UAV air vehicle and sensor performance data. Contracts will be used to support the demonstrations, which could include modifying existing Navy and Fleet UAV air vehicles.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">15.231</td><td style="text-align: center;">28.523</td><td></td><td style="text-align: center;">13.836</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	15.231	28.523		13.836	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	15.231	28.523		13.836															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 100px;">Activities include requirement flow-down and development of functional and detailed systems specifications (including air vehicle and ground station avionics, software and logistics); solicitation activities; development of milestone and acquisition-related documentation; capability refinement and open systems architecture development; metric development and tracking; affordability assessments and cost analyses; test and evaluation planning , demonstrations using surrogate and UAV platforms. Logistics supportability analyses and environmental planning; development of manpower and basing assessments; risk reduction and risk management; system integration and interoperability planning; systems engineering and technology maturity reviews; program protection planning, corrosion prevention planning, anti-tamper provisioning planning, and Joint and International Cooperation.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.575</td><td style="text-align: center;">9.776</td><td></td><td style="text-align: center;">5.503</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.575	9.776		5.503	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.575	9.776		5.503															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Contractor Support Services, Program Management Support, and Travel.</div>																			

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 3 of 9)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 4020 BAMS UAV		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	24.767	113.438	141.796	146.127
Current BES/President's Budget	19.806	85.799	0.000	29.339
Total Adjustments	-4.961	-27.639	-141.796	-116.788
Summary of Adjustments				
Congressional program reductions		-15.000		
Congressional undistributed reductions		-2.620		
Congressional rescissions				
SBIR/STTR Transfer				
Other		-10.019	-141.796	-117.349
Economic Assumptions	-0.023			0.561
Reprogrammings	-4.938			
Congressional increases				
Subtotal	-4.961	-27.639	-141.796	-116.788

Schedule:

Schedule profile rephased to reflect a new Milestone B in Q4 FY07.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 4020 BAMS UAV			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
APN 044200 BAMS UAV								302.983		
APN Initial Spares: 060510 BAMS UAV								14.289		

E. ACQUISITION STRATEGY:

The BAMS UAV program will develop and field a persistent maritime ISR capability .
 Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads).

The BAMS UAV will be an evolutionary based acquisition. Pre-Systems acquisition activities will be conducted prior to a MS B. The program will advance to the System Development and Demonstration (SDD) phase with a Milestone B decision in 4Q FY07. A BAMS UAV AoA was completed in July 2003.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305205N Endurance Unmanned Aerial Vehicles			4020 BAMS UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Studies & Analysis	C/FFP	Various		47.500	04/05			10.000	11/06	0.000	57.500	57.500
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	47.500		0.000		10.000		0.000	57.500	
Remarks:												
Development Support/Demo's	Various	Various		5.373	02/05			2.268	11/06		7.641	
Software Development											0.000	
Integrated Logistics Support	Various	Various	2.196	2.928	12/04			1.245	11/06	Continuing	Continuing	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various		5.765	02/05			3.655	11/06	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			2.196	14.066		0.000		7.168		Continuing	Continuing	
Remarks:.												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 9)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROGRAM ELEMENT 0305205N Endurance Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 4020 BAMS UAV					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation										Continuing	Continuing	
Operational Test & Evaluation										Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	Various	Various	0.512	0.822	12/04			0.972	11/06	Continuing	Continuing	
Government Engineering Support	WX	Various	12.523	14.457	12/04			6.668	11/06	Continuing	Continuing	
Program Management Support	Various	Various	4.500	8.804	02/05			4.456	11/06	Continuing	Continuing	
Travel			0.075	0.150	10/04			0.075	10/06	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			17.610	24.233		0.000		12.171		Continuing	Continuing	
Remarks:												
Total Cost			19.806	85.799		0.000		29.339		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 9)

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 9)

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CLASSIFICATION:

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 9 of 9)

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305206N Airborne Reconnaissance Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	26.675	14.375	27.918	17.732	18.227	18.492	18.739	19.122
2694 Advanced Digital Sensors	11.906	10.023	27.918	17.732	18.227	18.492	18.739	19.122
2807 Hyperspectral Upgrade to Airborne Cameras	3.951	3.363						
9114 Electron-Optic	3.458							
9437 Deployable Unmanned System (DUSTER)	5.137							
9438 Multi-Spectral Glass Windows for Airborne	2.223							
9651 Passive Collision Avoidance and Recon		0.989						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

In FY05, the advanced sensor developments provided the technology transition modules for operational use necessary to support the EP-3E JMOD Common Configuration (JCC) program and provide the mechanism required for timely dissemination of intelligence information to operational forces.

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. The developments are driven by evolving collection requirements and modern technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture (ARITA). The Advanced Sensors Development Program implements successful proof-of-concept efforts accomplished in the Advanced Technology Program, other Service/Agency developments, and Congressionally-funded initiatives leading to producible sensor systems for airborne platforms. Upon successful sensor prototype demonstration, technology sensor developments are turned over to the Services for procurement and platform integration. This effort focuses on developments, which support sensor system interoperability and standardization of multi-Service and multi-platform applications. In addition, funds provide for the development/integration and operational assessment of components for the EP-3E and Special Projects (SP) aircraft and follow-on candidate aircraft.

The two primary objectives for Advanced Technology funding is to evaluate the utility and maturity of technology for airborne reconnaissance applications and to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs have been successful.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 21)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5	R-1 ITEM NOMENCLATURE 0305206N Airborne Reconnaissance Systems	
<p>There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Congress added funds in FY 2004 to (1) develop an Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop an upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module, and (4) prepare a plan for development of a passive collision avoidance and reconnaissance system (PCARS) that would capitalize on currently available off-the-shelf technology. Solutions would apply to both military and civilian aircraft.</p>		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems				PROJECT NUMBER AND NAME 2694 Advanced Digital Sensors			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	11.906	10.023	27.918	17.732	18.227	18.492	18.739	19.122
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. The developments are driven by evolving collection requirements and modern technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture (ARITA). The advanced sensor program includes technical analysis, systems engineering assessments, planning, and development for advanced airborne sensor systems. This effort focuses on developments which support sensor system interoperability and standardization of multi-Service and multi-platform applications. The EP-3E and Special Projects will undergo a series of incremental modifications via an evolutionary acquisition process beginning in FY 2001. The advanced sensor developments described herein will provide the technology transition modules necessary for the overall migration of the airborne fleet to JASA, (i.e., sensors, ground systems, data links, and platforms), and provide the mechanism required for timely dissemination of intelligence information to operational forces.

FY05 began the integration of JMOD Common Configuration (JCC) into all EP-3 aircraft. These efforts carry forward the developments from prior years and continue the development efforts to ensure that EP-3 aircraft maintain their interoperability and relevance to emerging threats and changing technology. This funding provides for the development of the JCC capabilities and Spirals. The JCC baseline program builds on a common baseline with two spirals. Spiral 1 (ForceNet) includes high band and special collection subsystems (Story Finder, MPEG) and data dissemination (Story Teller). Spiral 2 includes additional special collection signal capabilities, obsolescence and Story Maker. A technical refresh will provide the EP-3 with QRCs, a replacement for the obsolete low-band Radio Frequency Distribution (RFD) and Direction Finding (DF) subsystems and other special signal processing upgrades. The Special Projects Modernization and Common Configuration Baseline (MCCB) program provides rapid insertion of new capabilities including improved communications, collection and analysis capabilities and weight reduction. Additionally, MCCB addresses technology refresh and obsolescence engineering. Most of the MCCB upgrades are based on stand-alone Government-Off-The-Shelf and Commercial-Off-The-Shelf (GOTS/COTS) systems.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 2694 Advanced Digital Sensors		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.700	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>Story Classic (Special Collections) ALD-9 replacement engineering study completed. Story Classic Collection Upgraded PDR & CDR. Test and integrate initial Story Classic Collection into SIL completed. Story Classic Collection upgrades and demonstration completed.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.684	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>Development of hardware and software interface for Story Teller upgraded; including CDL. Story Teller and Common Data Link (CDL) integration into SIL completed. Imagery development and Integration completed. Test and Evaluate Story Teller and CDL in SIL completed. Integrated Story Teller, CDL and antenna upgrade into aircraft.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.400	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>Story Finder integration and DT completed. DT slipped due to aircraft availability and required FY04 funding. Story Finder OT now included with Spiral 1 OT.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 2694 Advanced Digital Sensors		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.317	0.000	0.000	0.000
RDT&E Articles Quantity				
Story Book DT/OT (including OPAL/ONYX) completed. Story Book upgraded (including CPC). Story Book signals analysis and upgrade receivers completed. Developed Story Book Analysis upgrades				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.813	0.000	0.000	0.000
RDT&E Articles Quantity				
Story Maker development, integration and demonstration completed. Story Maker into Systems Integration Lab (SIL) and performed flight test completed.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.643	3.432	12.024	6.920
RDT&E Articles Quantity				
JMOD Imagery engineering investigations completed. Mission system weight developed. Developed and demonstrated Special Projects (SP) Direction Finding (DF) upgrades for SP Systems Requirements Review (SRR). SP Communications/Infrastructure updated. Special Projects Modernization and Common Configuration Baseline (MCCB) program. Develop Spiral upgrades to the special collections subsystem, data communications and infrastructure. Address technology refresh and obsolescence issues.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.349	0.000	0.000	0.000
RDT&E Articles Quantity				
Story Finder MPEG upgrades and continued software development completed. Story Finder MPEG integration into SIL completed. Added MPEG message set to Story Teller.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 2694 Advanced Digital Sensors		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		3.977	0.500	0.000
RDT&E Articles Quantity				
Spiral 1 integration and test includes high band and special collection subsystems (Story Finder and MPEG) and data dissemination (Story Teller), developed under 2694 in previous years.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		2.614	8.322	3.981
RDT&E Articles Quantity				
Spiral 2 development included precision targeting capabilities, obsolescence and Story Maker. Additional special collection signal capabilities, Story Maker Data Fusion and MPEG frequency extension development.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	7.072	6.831
RDT&E Articles Quantity				
The Technical Refresh and Obsolescence includes QRCs, low-band Radio Frequency Distribution (RFD) and Direction Finding (DF) subsystem replacement, Data Communications equipment replacement and special signal processing upgrades.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																																																
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Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305206N Airborne Reconnaissance Systems			2694 Advanced Digital Sensors						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Hdwre Development-S.F.	SS/CPFF	BTG, Vienna, VA	0.898								0.898	0.898
AncillaryHdwre Development-S.F.	SS/CPFF	Raytheon Systems, IN/TX	4.287								4.287	4.287
Ancillary Hdwre Dev - MPEG	SS/CPFF	Lockheed Martin, CO	1.633								1.633	1.633
Ancillary Hdwre Development-S.T.	SS/CPFF	Raytheon Systems, IN	0.400								0.400	0.400
Ancillary Hdwre Development-S.B.	SS/CPFF	Raytheon Systems, TX	0.400								0.400	0.400
Ancillary Hdwre Development-CPC	SS/CPFF	Raytheon Systems, TX	1.447								1.447	1.447
Aircraft Integration	SS/CPFF	Raytheon Systems, TX	2.414								2.414	2.414
Ancillary Hdwre Development-ESM	SS/CPFF	Condor, San Jose, CA	2.868								2.868	2.868
Ancillary Hdwre Development-	SS/CPFF	CTC, Johnstown, PA	4.228								4.228	4.228
Ancillary Hdwre Development-S.C.	SS/CPFF	Raytheon Indianapolis, IN	5.162								5.162	5.162
Ancillary Hdwre Development-J2	SS/CPFF	L3Com,TX	1.148								1.148	1.148
Ancillary Hdwre Development-S.P.	SS/CPFF	Argon, VA	2.500	3.432	12/04	10.405	12/05	5.501	12/06		21.838	21.838
Ancillary Hdwre Dev - Spiral 1	SS/CPFF	L3Com,TX		2.359	04/05	0.250	12/05				2.609	2.609
Ancillary Hdwre Dev - Spiral 2	SS/CPFF	L3Com,TX		1.536	04/05	6.205	12/05	2.317	12/06	1.200	11.258	11.258
Ancillary Hdwre Dev - Obsolesescen	SS/CPFF	TBD				6.569	12/05	6.117	12/06	Continuing	Continuing	
Subtotal Product Development			27.385	7.327		23.429		13.935		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 21)

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305206N Airborne Reconnaissance Systems			2694 Advanced Digital Sensors						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Develop Support	C/CPFF	ATT, Vienna, VA	2.816			0.800	12/05	0.800	12/06		4.416	4.416
Develop Support	WX	NAWC,WD, China Lake, CA	4.780			0.503	12/05	0.494	12/06		5.777	
Develop Support	WX	NSWC, Dahlgren, VA	0.814			0.750	12/05	0.800	12/06		2.364	
Develop Support	WX	SPAWAR, SD	0.000			0.200	12/05				0.200	
Software Development - Story Maker	SS/CPFF	GD, Sunnyvale, CA	2.682								2.682	2.682
Develop Support - Spiral 1	Various	Various		1.096	01/05						1.096	
Develop Support - Spiral 2	Various	Various		0.730	01/05						0.730	
Subtotal Support			11.092	1.826		2.253		2.094			17.265	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305206N Airborne Reconnaissance Systems				PROJECT NUMBER AND NAME 2694 Advanced Digital Sensors					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT/OT & Eval	WX	NAWC,AD Pax River, MD	0.520			0.350	12/05	0.348	12/06		1.218	
DT/OT & Eval	WX	NRL, MD	0.310			0.762	12/05	0.000	12/06		1.072	
T&E - Spiral 1	Various	Various		0.370	01/05						0.370	
T&E - Spiral 2	WX	NAWC,AD Pax River, MD				0.500	12/05	0.700	12/06	Continuing	Continuing	
Subtotal T&E			0.830	0.370		1.612		1.048		Continuing	Continuing	
Remarks:												
Systems Eng Suppt	WX	NAWC,AD Pax River, MD	1.000	0.350	01/05	0.524	12/05	0.555	12/06	Continuing	Continuing	
Travel	WX	NAWC,AD Pax River, MD	0.300	0.100	01/05	0.100	12/05	0.100	12/06	Continuing	Continuing	
ILS Suppt	WX	NAWC,AD Pax River, MD	0.150	0.050	01/05						0.200	
Subtotal Management			1.450	0.500		0.624		0.655		Continuing	Continuing	
Remarks:												
Total Cost			40.757	10.023		27.918		17.732		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 11 of 21)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0305206N Airborne Reconnaissance Systems												2694 Advanced Digital Sensors											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Program Milestones	SP SRR ▲																															
Engineering Milestones																																
Test & Evaluation Milestones																																
Development Test	SF DT ▲																															
Development Test/ Operational Test																																
Contract Milestones																																

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 12 of 21)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 13 of 21)

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems				PROJECT NUMBER AND NAME 2807 Hyperspectral Upgrade			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.951	3.363						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Efforts supports Congressional add for Modular Upgrades to Airborne Reconnaissance Sensors.</p>								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 2807 Hyperspectral Upgrade		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.029	0.500	0.000	0.000
RDT&E Articles Quantity				
FY 04: This effort continued the Hyperspectral upgrade to airborne cameras. FY 05: This effort will complete development of the Hyperspectral camera upgrade.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.567	1.500	0.000	0.000
RDT&E Articles Quantity				
FY 04: This effort continued development of the minispectrometer. FY 05: This effort will complete the minispectrometer and characterize the performance of the device.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.355	1.363	0.000	0.000
RDT&E Articles Quantity				
FY 04: This effort initiated flight testing of the Advanced Camera. FY 05: This effort will perform the testing of the Advanced Camera, particularly its long range performance.				

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Exhibit R-2a, RDTEEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems			PROJECT NUMBER AND NAME 2807 Hyperspectral Upgrade					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not applicable.										
(U) E. ACQUISITION STRATEGY:										
Not applicable.										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems			PROJECT NUMBER AND NAME 9651 Passive Collision Avoidance and Reconnaissance			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.989						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Effort supports Congressional add for Passive Collision Avoidance and Reconnaissance.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 18 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 9651 Passive Collision Avoidance and Reconnaissance																	
(U) B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.400	0.000	0.000															
RDT&E Articles Quantity																			
FY 05: This effort will assemble brassboard device																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.400</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.400	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.400	0.000	0.000															
RDT&E Articles Quantity																			
FY 05: This effort will perform target and background measurements.																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.189	0.000	0.000															
RDT&E Articles Quantity																			
FY 05: This effort will assess the effectiveness of the target detection and false alarm rejection algorithms.																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME 9651 Passive Collision Avoidance and Reconnaissance		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
Previous President's Budget:	0.000	0.000	0.000	0.000
Current BES/President's Budget	0.000	0.989	0.000	0.000
Total Adjustments	0.000	0.989	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Reprioritization of requirements				
Congressional increases	0.000	0.989		
Subtotal	0.000	0.989	0.000	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 20 of 21)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305206N Airborne Reconnaissance Systems			PROJECT NUMBER AND NAME 9651 Passive Collision Avoidance and Reconnaissance					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not applicable.										
(U) E. ACQUISITION STRATEGY:										
Not applicable.										

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305208N Distributed Common Ground Systems (DCGS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	8.814	13.033	12.354	11.735	5.936	4.925	5.076	5.230
A2174 CIGSS (DCGS-N)	4.319	6.495	12.354	11.735	5.936	4.925	5.076	5.230
9440 Enterprise Targeting and Strike System	4.495	2.773						
9652 TES-N/DCGS-N Node at PAX River		3.765						
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: As outlined in the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN RDA) Memorandum dated 23 JAN 2004, ASN RDA has directed the programmatic merging of the previously separate Joint Service Imagery Processing System-Navy (JSIPS-N) and Joint Fires Network (JFN) programs. This new, merged program construct is hereafter referred to as the Distributed Common Ground Station-Navy (DCGS-N). Attendant to this merger, the Office of the Secretary of Defense (OSD) directed that all Budget Line Items (BLIs) associated with Program Elements (PEs) 0305208N (JSIPS-N) and 0204228N (JFN) be programmatically merged in FY05, and finally combined under the existing 0305208N PE beginning FY06 throughout the balance of the merged program life cycle. As such, the FY05 through FY06 funding breakouts represent the post merge DCGS-N merged program construct.</p> <p>The Distributed Common Ground System – Navy (DCGS-N) is the Navy's portion of the OSD DCGS effort. DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of automating, coordinating, and correlating, in real time, the reception, processing, exploiting, storing and disseminating of multiple source intelligence (MULTI-INT) from airborne and national reconnaissance assets to provide time-critical fire control solutions for advanced weapon systems and sensors and situational awareness to support C2 decision making and planning. DCGS utilizes the entire spectrum of available intelligence data including Measurements Analysis and Signatures Intelligence (MASINT) data, Signals Intelligence (SIGINT) data, Multi-Intelligence Reconnaissance data, and Imagery Intelligence (IMINT). The automation/correlation provided by DCGS-N will provide the Navy an ability to quickly target and re-target precision strike weapons, greatly enhancing their effectiveness and lethality.</p> <p>The DCGS-N Converged Architecture (CA) brings together the proven imagery exploitation capabilities of Joint Services Imagery Processing System – Navy (JSIPS-N) Tactical Input Segment (TIS) and the precision mensuration capability of the Precision Targeting Workstation (PTW) and merges them with the Time Critical Strike/Targeting (TCS/T) capability developed by the Joint Fires Network (JFN) and disseminates this throughout the ashore and afloat nodes through the Joint Concentrator Architecture (JCA). This converged capability provides unparalleled flexibility to the warfighter and rapid response capability against rapidly relocatable, time critical targets. DCGS-N Converged Architecture will become part of the DoD DCGS Network Enterprise via the DCGS Integration Backbone (DIB). Engineering work is funded to migrate legacy JFN/JSIPS systems to this network environment. As DCGS 10.2 is developed by the Air Force, DCGS-N will stay abreast of expanding requirements and ensure compliance with the DoD DCGS network architecture.</p>								

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EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305208N Distributed Common Ground Systems (DCGS)				PROJECT NUMBER AND NAME A2174/9440/9652 CIGSS (DCGS-N)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	8.814	13.033**	12.354	11.735	5.936	4.925	5.076	5.230
RDT&E Articles Qty								
*Funding includes FY04 Congressional Add for Enterprise Targeting and Strike System (eTSS) - \$4.495M **Funding includes FY05 Congressional add for DCGS-N Node Pax River - \$3.765M, Enterprise Targeting and Strike System (eTSS) - \$2.773M								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: As outlined in the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN RDA) Memorandum dated 23 JAN 2004, ASN RDA has directed the programmatic merging of the previously separate Joint Service Imagery Processing System-Navy (JSIPS-N) and Joint Fires Network (JFN) programs. This new, merged program construct is hereafter referred to as the Distributed Common Ground Station-Navy (DCGS-N). Attendant to this merger, the Office of the Secretary of Defense (OSD) directed that all Budget Line Items (BLIs) associated with Program Elements (PEs) 0305208N (JSIPS-N) and 0204228N (JFN) be programmatically merged in FY05, and finally combined under the existing 0305208N PE beginning FY06 throughout the balance of the merged program life cycle. As such, the FY05 through FY06 funding breakouts represent the post merge DCGS-N merged program construct.</p> <p>The Distributed Common Ground System – Navy (DCGS-N) is the Navy’s portion of the OSD DCGS effort. DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of automating, coordinating, and correlating, in real time, the reception, processing, exploiting, storing and disseminating of multiple source intelligence (MULTI-INT) from airborne and national reconnaissance assets to provide time-critical fire control solutions for advanced weapon systems and sensors and situational awareness to support C2 decision making and planning. DCGS utilizes the entire spectrum of available intelligence data including Measurements Analysis and Signatures Intelligence (MASINT) data, Signals Intelligence (SIGINT) data, Multi-Intelligence Reconnaissance data, and Imagery Intelligence (IMINT). The automation/correlation provided by DCGS-N will provide the Navy an ability to quickly target and re-target precision strike weapons, greatly enhancing their effectiveness and lethality.</p> <p>The DCGS-N Converged Architecture (CA) brings together the proven imagery exploitation capabilities of Joint Services Imagery Processing System – Navy (JSIPS-N) Tactical Input Segment (TIS) and the precision mensuration capability of the Precision Targeting Workstation (PTW) and merges them with the Time Critical Strike/Targeting (TCS/T) capability developed by the Joint Fires Network (JFN) and disseminates this throughout the ashore and afloat nodes through the Joint Concentrator Architecture (JCA). This converged capability provides unparalleled flexibility to the warfighter and rapid response capability against rapidly relocatable, time critical targets. DCGS-N Converged Architecture will become part of the DoD DCGS Network Enterprise via the DCGS Integration Backbone (DIB). Engineering work is funded to migrate legacy JFN/JSIPS systems to this network environment. As DCGS 10.2 is developed by the Air Force, DCGS-N will stay abreast of expanding requirements and ensure compliance with the DoD DCGS network architecture.</p>								

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Exhibit R-2a, RDTEN Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305208N Distributed Common Ground Systems (DCGS)	PROJECT NUMBER AND NAME A2174/9440/9652 CIGSS (DCGS-N)																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.319	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p>Continue JSIPS-N systems engineering including Precision Targeting Workstation (PTW), Precision Guided Munitions (PGM), 'classified' communications, JSIPS-N concentrator Architecture (JCA), and Imagery Exploitation Software Segment (IESS) and accelerate the development of JSIPS-N components of Navy C4I dissemination architectures.</p><p>The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in the PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05. In FY06, the budget lines will be merged permanently.</p></div>																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	1.724	1.165	1.322															
RDT&E Articles Quantity																			
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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 3 of 11)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305208N Distributed Common Ground Systems (DCGS)	PROJECT NUMBER AND NAME A2174/9440/9652 CIGSS (DCGS-N)																	
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.325	0.943	0.978															
RDT&E Articles Quantity																			
Site Integration																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.800</td><td style="text-align: center;">3.563</td><td style="text-align: center;">3.308</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.800	3.563	3.308	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
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RDT&E Articles Quantity																			
DCGS-N Systems Engineering																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	3.765	0.000	0.000															
RDT&E Articles Quantity																			
DCGS-N Node Pax River																			

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	FY 04	FY 05	FY 06	FY 07															
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Enterprise Targeting and Strike System (eTSS)																			
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	FY 04	FY 05	FY 06	FY 07															
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305208N Distributed Common Ground Systems (DCGS)	PROJECT NUMBER AND NAME A2174/9440/9652 CIGSS (DCGS-N)	

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget (PB05):	4.421	3.635	3.694	3.762
Current President's Budget (PB 06):	8.814	13.033	12.354	11.735
Total Adjustments	4.393	9.398	8.660	7.973
Summary of Adjustments				
Economic Assumptions	-0.038			
Reprogrammings				
Other	-0.069	-0.200		
PBD Adjustments		-0.002	0.095	0.190
Realign JFN/JSIPS-N		3.000		
Congressional Adds	4.500	6.600		
Technical correction			8.565	7.783
Subtotal	4.393	9.398	8.660	7.973

Schedule:

Not applicable.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305208N Distributed Common Ground Systems (DCG				PROJECT NUMBER AND NAME A2174/9440/9652 CIGSS (DCGS-N)				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN, BLI 291400 Common Imagery Ground Support/Systems (CIGSS)	40.230	49.630	20.422	93.771	103.491	84.905	86.796	88.775	Continuing	Continuing
OPN, BLI 511200 Naval Fires Control System	23.997	0.998							0.000	24.995
E. ACQUISITION STRATEGY:										
<p>The production DCGS-N Converged Architecture (DCA) system consists of four legacy transitional elements including the Joint Fires Network (JFN), Precision Targeting Workstation (PTW), Joint Concentrator Architecture (JCA)/National Input Segment (NIS), and Tactical Input Segment (TIS) application. The JFN is already in production and is an integrated DCA segment. The JCA/NIS is also in full rate production and is supplied as Government Furnished Equipment (GFE) by the National Geo-spatial Agency (NGA). The TIS application is acquired from the Air Force Electronic Systems Center (ESC) at Hanscom AFB. The TIS includes a Common Imagery Processor (CIP) that is supplied as GFE to the integrating contractor and is an integrated component element within the DCA. The DCA system integrator is NGC, and NGC and Space and Naval Warfare Systems Command for the merged legacy JFN and JSIPS-N segment elements.</p>										
F. MAJOR PERFORMERS:										

R-1 SHOPPING LIST - Item No. 205

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT 0305208N/Distributed Common Ground Systems			PROJECT NUMBER AND NAME 2174/9440/9652 CIGSS									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	Various	0.000			3.765	03/05						3.765	
Ancillary Hardware Development														
Component Development														
Ship Integration	MIPR	Various	0.000			0.325	11/04	0.943	11/05	0.978	11/06	Continuing	Continuing	
Ship Suitability														
Systems Engineering	MIPR	Various	0.000			1.800	11/04	3.563	11/05	3.308	11/06	Continuing	Continuing	
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development			0.000	0.000		5.890		4.506		4.286		Continuing	Continuing	
Remarks:														
Development Support														
Software Development	MIPR	Various	14.022	8.814	11/03	5.419	11/04	6.683	11/05	6.127	11/06	Continuing	Continuing	
Software Development (SAIP)														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			14.022	8.814		5.419		6.683		6.127		Continuing	Continuing	
Remarks: The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in the NAVAIR PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05.														

R-1 SHOPPING LIST - Item No.

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**Exhibit R-2a, RD TEN Budget Item Justification
(Exhibit R-2, Page 8, of 11)**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME										
RDT&E, N / BA-7		0305208N/Distributed Common Ground Systems			2174/9440/9652 CIGSS										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	MIPR	Various	0.375	0.000		1.724	11/04	1.165	11/05	1.322	11/06	Continuing	Continuing		
Operational Test & Evaluation															
Live Fire Test & Evaluation															
Test Assets															
Tooling															
GFE															
Award Fees															
Subtotal T&E			0.375	0.000		1.724		1.165		1.322		Continuing	Continuing		
Remarks:															
Contractor Engineering Support															
Government Engineering Support															
Program Management Support															
Travel															
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Total Cost			14.397	8.814		13.033		12.354		11.735		0.000	60.333		
Remarks: The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in the NAVAIR PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05.															

R-1 SHOPPING LIST - Item No.

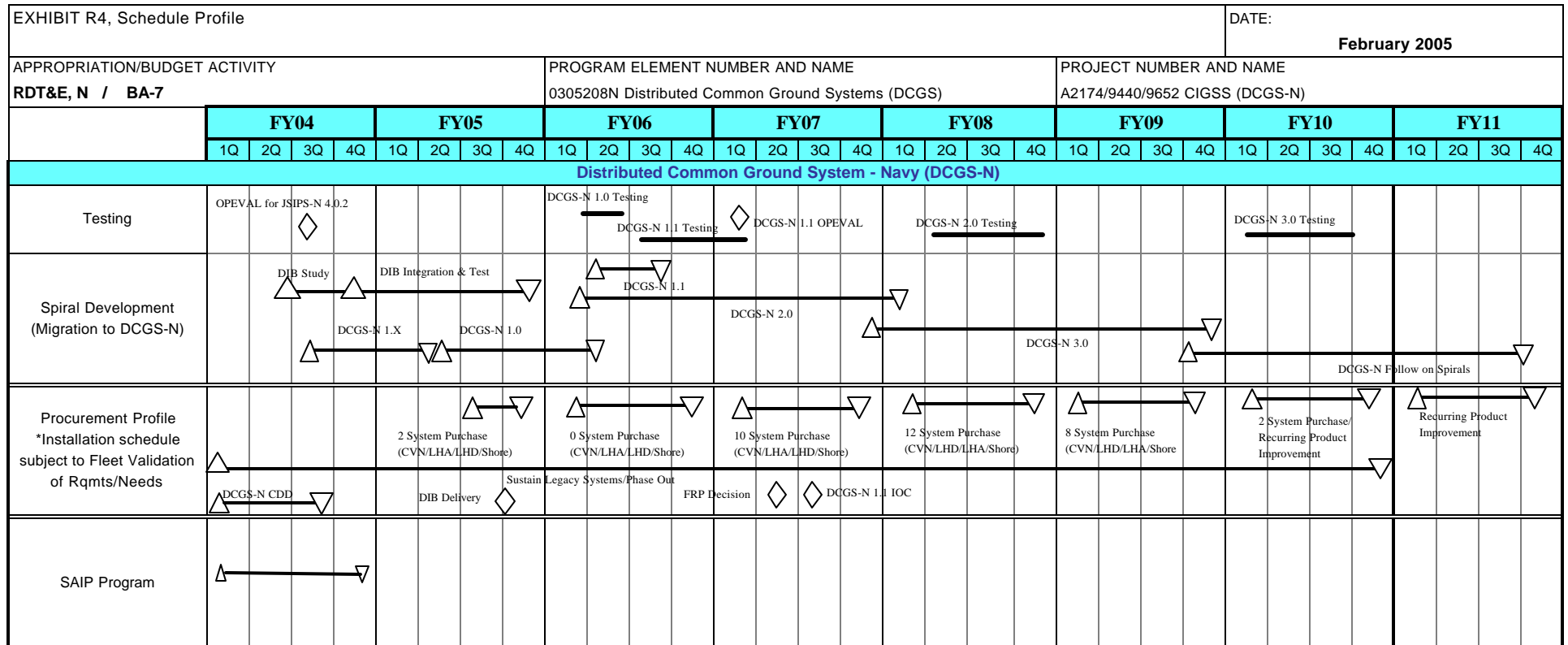
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Exhibit R-2a, RDTEN Budget Item Justification
(Exhibit R-2, Page, 9, of 11)

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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7		0305208N Distributed Common Ground Systems (DCGS)				A2174/9440/9652 CIGSS (DCGS-N)			
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Testing									
	JSIPS 4.0.2 OPEVAL	3Q							
	DCGS-N 1.0 Testing			1Q-2Q					
	DCGS-N 1.1 Testing			3Q-4Q	1Q				
	DCGS-N 1.1 OPEVAL				1Q				
	DCGS-N 2.0 Testing					2Q-4Q			
	DCGS-N 3.0 Testing							1Q-3Q	
Spiral development (Migration to Converged Architecture)									
	DIB Study	2Q-4Q							
	DIB Integration and Test	4Q	1Q-4Q						
	DCGS-N 1.X Development	3Q-4Q	1Q-2Q						
	DCGS-N 1.0 Development		2Q-4Q	1Q-2Q					
	DCGS-N 1.1 Development			2Q-3Q					
	DCGS-N 2.0 Development			1Q-4Q	1Q-4Q	1Q			
	DCGS-N 3.0 Development				4Q	1Q-4Q	1Q-4Q		
	DCGS-N Follow on Spiral Development						4Q	1Q-4Q	1Q-4Q
Acquisition Program									
	CDD	1Q-3Q							
	Sustain/Phase Out Legacy Equipment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
	DCGS-N Procurement		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
	DIB Delivery		4Q						
	FRP Decision				2Q				
	DCGS-N 1.1 IOC				3Q				
	Recurring Product Improvement/P3I							1Q-4Q	1Q-4Q
SAIP Program									
	SAIP	1Q-4Q							

R-1 SHOPPING LIST - Item No. 205

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 11 of 11)

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0307207N Aerial Common Sensor			
COST (\$ in Millions)	*FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		24.683	133.642	123.669	173.973	110.946	40.777	16.320
3015 Aerial Common Sensor		24.683	133.642	123.669	173.973	110.946	40.777	16.320

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funding for the Navy's Aerial Common Sensor (ACS) involvement in a post-Milestone B joint Army/Navy program. Provide funds for Navy's share of ACS platform development and for Navy unique requirements. ACS is the Navy's recapitalization of existing EP-3E capabilities and offers a transformational platform to fulfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). RDT&E efforts under ACS will integrate additional workstations, ensure connectivity to multi-service platforms and ground stations, procure two ACS test platforms and develop an initial mission systems spiral that will integrate the Navy's unique maritime Intelligence, Surveillance and Reconnaissance (ISR) mission requirements. ACS contract awarded 4th quarter FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado.

* FY 2004 funding was a congressional add in PE 0605152N Studies and Analysis Support for Future SIGINT Requirements/Joint ACS Program. Those funds were executed in that R-1 line item and used to study the available replacement options and the viability of ACS as a replacement program for the EP-3. Follow on development funding for ACS is budgeted and will be executed in this R-1 line item.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0307207N Aerial Common Sensor				PROJECT NUMBER AND NAME 3015 Aerial Common Sensor			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		24.683	133.642	123.669	173.973	110.946	40.777	16.320
RDT&E Articles Qty				1	1			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funding for the Navy's Aerial Common Sensor (ACS) involvement in a post-Milestone B joint Army/Navy program. Provide funds for Navy's share of ACS platform development and for Navy unique requirements. ACS is the Navy's recapitalization of existing EP-3E capabilities and offers a transformational platform to fulfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). RDT&E efforts under ACS will integrate additional workstations, ensure connectivity to multi-service platforms and ground stations, procure two ACS test platforms and develop an initial mission systems spiral that will integrate the Navy's unique maritime Intelligence, Surveillance and Reconnaissance (ISR) mission requirements.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0307207N Aerial Common Sensor	PROJECT NUMBER AND NAME 3015 Aerial Common Sensor																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">System Development and Development Support</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td><td style="width: 10%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">20.483</td><td style="text-align: center;">127.310</td><td style="text-align: center;">109.819</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td style="text-align: center;">1</td></tr></table>					System Development and Development Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		20.483	127.310	109.819	RDT&E Articles Quantity				1
System Development and Development Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		20.483	127.310	109.819															
RDT&E Articles Quantity				1															
<div style="border: 1px solid black; padding: 5px; min-height: 80px;">Awarded SDD contract with Lockheed Martin. Entered into SDD for ACS Program; conduct engineering and development efforts in preparation for the Preliminary / Critical Design Reviews (PDR / CDR) for the ACS weapon system. Conduct engineering, loads analysis, design, preparation, installation and ground test calibration of instrumentation and loads test. Test program risk reduction efforts. Fund ramp up for Preliminary / Critical Design Reviews (PDR / CDR). Conduct development and support of a reachback capability and interoperability to multiservice platforms and ground stations.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Development /Operational Test & Evaluation</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td><td style="width: 10%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td style="text-align: center;">2.203</td><td style="text-align: center;">9.377</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Development /Operational Test & Evaluation	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost			2.203	9.377	RDT&E Articles Quantity				
Development /Operational Test & Evaluation	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost			2.203	9.377															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Conduct development, integration and test in preparation for Developmental Test (DT) and Limited User Test (LUT) / Operational Assessment (OA). Support Developmental Test and Limited User Test (LUT) / Operational Assessment (OA).</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">ACS Program Management and Engineering Support</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td><td style="width: 10%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">4.200</td><td style="text-align: center;">4.129</td><td style="text-align: center;">4.473</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					ACS Program Management and Engineering Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		4.200	4.129	4.473	RDT&E Articles Quantity				
ACS Program Management and Engineering Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		4.200	4.129	4.473															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Fund ACS government and contractor systems engineering and engineering support. Fund ACS program management.</div>																			

R-1 SHOPPING LIST - Item No. 206

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0307207N Aerial Common Sensor	PROJECT NUMBER AND NAME 3015 Aerial Common Sensor		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	0.000	24.909	49.864	99.783
Current BES/President's Budget:	0.000	24.683	133.642	123.669
Total Adjustments	0.000	-0.226	83.778	23.886
Summary of Adjustments				
OSD		-0.005	-4.607	-4.790
Congressional undistributed reductions		-0.221		
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments			87.000	26.860
Economic Assumptions			1.385	1.816
Reprogrammings				
Congressional increases				
Subtotal	0.000	-0.226	83.778	23.886

Schedule:

Adjusted to reflect Army's ACS Schedule Baseline

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 206

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0307207N Aerial Common Sensor			PROJECT NUMBER AND NAME 3015 Aerial Common Sensor					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
0605152N (H9411) Future SIGINT Rqmts/Joint ACS Pgm	3.842									3.842
APN BLI 019100 Aerial Common Sensor (ACS)					6.065	131.444	397.951	529.745	607.140	1,672.345
APN BLI 060510 Initial Spares							11.217	17.887	110.986	140.090
E. ACQUISITION STRATEGY:										
Leverages off of the Army's ACS development efforts to provide the Navy an affordable joint solution to recapitalize EP-3E capabilities. Army Acquisition Strategy signed by the MDA, USD (ATL) on 19 Dec 2003. Army Milestone B approval to proceed with System Development and Demonstration (SDD) occurred 4th QTR FY2004. ACS contract awarded 4th QTR FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. The Navy will modify the Army's Acquisition Strategy and have it approved prior to its In-Process Review (IPR) to the DAB during 2nd QTR FY2005.										

R-1 SHOPPING LIST - Item No. 206

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0307207N Aerial Common Sensor			3015 Aerial Common Sensor						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	Army Prime Lockheed Martin		15.000	12/04	119.714	12/05	96.662	12/06	232.913	464.289	464.658
Systems Engineering	WX	NAWC/AD, Pax River, MD				1.845	11/05	2.742	11/06	15.095	19.682	
Training Development	C/CPAF	Army Prime Lockheed Martin						3.500	12/06	18.002	21.502	21.502
Training Development	WX	NAWC/TSD, Orlando, FL				0.894	11/05	1.015	11/06	2.428	4.337	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	15.000		122.453		103.919		268.438	509.810	
Remarks: Award Fee managed, monitored and funded by Army Program Office												
Development Support	C/CPFF	TBD		1.000	12/04	1.801	12/05	2.306	12/06	8.245	13.352	13.352
Development Support	WX	NAWC/WD, China Lake, CA		4.483	12/04	0.485	11/05	0.500	11/06	2.153	7.621	
Development Support	WX	NAWC/AD, Pax River				0.746	11/05	1.115	11/06	5.192	7.053	
Integrated Logistics Support	WX	NAWC/AD, Pax River				1.404	11/05	1.545	11/06	6.474	9.423	
Technical Data	WX	NAWC/AD, Pax River, MD				0.421	11/05	0.434	11/06	2.413	3.268	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	5.483		4.857		5.900		24.477	40.717	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0307207N Aerial Common Sensor				PROJECT NUMBER AND NAME 3015 Aerial Common Sensor					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC/AD, Pax River, MD				2.203	11/05	9.377	11/06	20.060	31.640	
Operational Test & Evaluation	WX	TBD								11.302	11.302	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		2.203		9.377		31.362	42.942	
Remarks:												
Contractor Engineering Support	C/CPFF	AT&T		0.400	12/04	1.213	12/05	1.315	12/06	5.004	7.932	7.932
Government Engineering Support	WX	NAWC/AD, Pax River, MD		2.500	12/04	1.603	11/05	1.859	11/06	7.632	13.594	
Program Management Support	WX	NAWC/AD, Pax River, MD		1.000	12/04	1.113	11/05	1.099	11/06	4.279	7.491	
Travel	WX	NAWC/AD, Pax River, MD		0.300	12/04	0.200	11/05	0.200	11/06	0.824	1.524	
											0.000	
											0.000	
Subtotal Management			0.000	4.200		4.129		4.473		17.739	30.541	
Remarks:												
Total Cost			0.000	24.683		133.642		123.669		342.016	624.010	
Remarks:												

R-1 SHOPPING LIST - Item No. 206

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 9)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0307207N Aerial Common Sensor												3015 Aerial Common Sensor											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones				MS B ▲		Navy IPR to DAB ▲							IPR/DRR ▲							MS C ▲					Army / Navy FRP ▲	Army FUE* ▲						
Contract Milestone				SDD Contract Award ▲																Army / Navy LRIP ▲												
ACS System Development					IBR ▲	PDR ▲		CDR ▲																								
Test & Evaluation Milestones																																
Development Test													DT 1 □		DT 2 □	LUT/OA** □				Operational Readiness Demo (Tech Eval) □												
Operational Test																				IOT&E (Op Eval) □												
Production Milestones																				Army / Navy LRIP Start ▲					Army / Navy FRP ▲							
Deliveries																				Navy ACS 1*** ▲		Navy ACS 2*** ▲			Navy ACS 3 ▲		Navy ACS 4 ▲					

R-1 SHOPPING LIST - Item No. 206

* First Unit Equipped (FUE), equates to IOC

** Limited User Test (LUT), equates to Operational Assessment (OA)

*** Navy Sys 1 & 2 are RDT&E assets

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 9)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 206

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 9 of 9)

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N
PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total PE	13,445	19,755	6,812	7,832	8,118	8,305	8,504	8,712
R2222 MODELING & SIMULATION	6,948	7,176	6,812	7,832	8,118	8,305	8,504	8,712
R2810 MODELING AND SIMULATION TO SUPPORT C4ISR DEVELOPMENT	6,497	5,943	0	0	0	0	0	0
R9653 GLOBAL ENGINEERING METHODOLOGY INITIATIVE FOR NAVAL INTEGRATION AND INTEROPERABILITY	0	2,772	0	0	0	0	0	0
R9654 JOINT ANALYTICAL MODELING IMPROVEMENT PROGRAM (JAMIP) JWARS	0	3,864	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element addresses projects under the Navy Modeling and Simulation (M&S) Management Office. It supports technical and management initiatives directed by Congress, Department of Defense (DoD), Secretary of the Navy (SECNAV), and Chief of Naval Operations (CNO) with the aim of bringing organization and focus to the development and use of M&S throughout the Navy and DoD. It provides a central agency for the formulation and implementation of policy and guidance in M&S, and represents Navy interests in Joint and other Agency initiatives. It funds efforts to define and coordinate the corporate Navy M&S policy and guidance to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DoD. Efforts are organized around four product areas: (1) Engineering Studies and Analysis: identifies and measures the relevance of existing and emerging standards, technologies and services necessary to guide Navy M&S use; (2) Products and Services: promotes the policy, standards and technologies necessary to guide more efficient development and use of M&S across the Navy, including development and management of the Navy Modeling and Simulation Information Service (NMSIS); (3) M&S Quality Assurance Program: establishes and manages a disciplined process of model Verification, Validation and Accreditation (VV&A) and establishes and manages a Modeling and Simulation Support Plan (MSSP) as required by current directives; and (4) Simulation Experiments: supports M&S use in Navy exercises and

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N
PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

experiments across a wide variety of warfighting and supporting communities. Specifically, Simulation Experiments integrate appropriate models and simulations into Fleet exercises to test, validate and evaluate for possible transition the M&S tools to enable seamless access and use of operationally relevant M&S products in support of Navy operations, training, acquisition, analysis and assessment.

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Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N
PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROGRAM CHANGE SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2005 President's Budget Submission	13,475	7,262	7,564	8,653
Cong Rescissions/Adjustments/Undist. Reductions	0	-202	0	0
Congressional Action	0	12,700	0	0
Non-Pay Inflation Adjustments	-6	0	0	0
Technical Adjustment	0	0	-756	-865
Program Adjustments	0	-5	-3	-3
Rate Adjustments	0	0	7	47
SBIR Assessment	-24	0	0	0
FY 2006/2007 President's Budget Submission	13,445	19,755	6,812	7,832

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
R2222 MODELING & SIMULATION	6,948	7,176	6,812	7,832	8,118	8,305	8,504	8,712

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project addresses critical coordination of Navy Modeling and Simulation (M&S) efforts, integrates individual programs into a coherent whole, promotes reuse of resources, and aligns Navy efforts with Joint programs. It develops and maintains a comprehensive repository of models, simulations and authoritative data to support broad-based Navy requirements. It promotes reusability through the Quality Assurance process for models, simulations and data, and enhances interoperability by coordinating and reviewing Navy's transition to DoD-mandated High Level Architecture (HLA) for distributed simulations. The program participates in fleet exercise experiments, distributive simulations and demonstrations such as Fleet Battle Experiments (FBE), Virtual at Sea Training (VAST), and Virtual Missile Range (VMR).

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2004	FY 2005	FY 2006	FY 2007
ENGINEERING STUDIES AND ANALYSIS	1,196	1,062	1,026	1,156

This activity conducts engineering studies and analyses aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy Modeling and Simulation (M&S), and at investigating Service-unique requirements for standards or guidance. Individual efforts focus on developing or evaluating approaches to optimize training, assessments and acquisition functional/mission objectives through more efficient development and use of M&S. This activity develops methodologies and standards that will result in model and data reusability and interoperability through the formulation of a technical framework. These standards will support the full range of architecture and engineering design and analysis requirements across the Navy. This activity also provides an M&S degree program through the Naval Postgraduate School, Modeling Virtual Environments and Simulation (MOVES) curriculum.

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

FY 2004 Accomplishments:

- Demonstrated the Embedded Simulation Infrastructure requirements and capability to develop robust simulations within the DII COE and the Global Command and Control System/Maritime (GCCS/M).
- Designed additional common simulation "building-block" functions required within Defense Information Infrastructure (DII) Common Operating Environment (COE) based Command, Control, Communications, Computers and Intelligence (C4I) systems to support simulation development.
- The MOVES Institute, in tandem with the MOVES degree program, provided military relevant thesis topics for research.
- Developed a prototype network Information Assurance (IA) assessment tool to support evaluation of network performance (throughput, delay, network overhead, packet loss and related network Quality of Service metrics), the effects of countermeasures, IA security policies and to identify potential network vulnerabilities.

FY 2005 Plans:

- Segment the Embedded Simulation Infrastructure and the two Mission Applications and prepare the documentation for test and release in GCCS and GCCS/M.
- Develop a set of standards for communications M&S for the U.S. Navy.
- Continue to work with the MOVES Institute and the MOVES degree program to provide military relevant thesis topics for research.

FY 2006 Plans:

- Continue efforts with the Embedded Simulation Infrastructure and the Mission Applications and develop and validate the documentation for test and release in GCCS and GCCS/M.
- Continue to develop a set of standards for communications M&S for the U.S. Navy.
- Continue to work with the MOVES Institute and the MOVES degree program in tandem to provide military relevant thesis topics for research.

FY 2007 Plans:

- Continue efforts with the Embedded Simulation Infrastructure and the Mission Applications and develop and validate the documentation for test and release in GCCS and GCCS/M.

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Exhibit R-2a

DATE: Feb 2005

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PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

- Continue to develop a set of standards for communications M&S for the U.S. Navy.
- Continue to work with the MOVES Institute and the MOVES degree program in tandem to provide military relevant thesis topics for research.

	FY 2004	FY 2005	FY 2006	FY 2007
PRODUCTS AND SERVICES	2,392	2,124	2,001	2,363

This activity supports development of common services, tools, databases and standards to ensure the integration and connectivity of modeling and simulation (M&S) products employed in Naval assessments, in training and acquisition, and among operational communities. It manages and maintains the Navy Modeling and Simulations Information System (NMSIS), as a central M&S information resource to support informed M&S investment decision making across Navy. It provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S standardization within the Navy. It provides annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.

FY 2004 Accomplishments:

- Implemented the requirements to perform as the Functional Data Manager for M&S as submitted by Department of Navy (DON) Chief Information Officer (CIO) and defined by Secretary of Navy Instruction (SECNAVINST) 5000.36.
- Promoted and enhanced the state-of-practice and technology within the Navy M&S community.
- Continued the development, servicing and use of NMSIS as directed under applicable DoD Directive (DIR), and SECNAVINST, and Chief of Naval Operation Instruction (OPNAVINST).
- Organized and facilitated a continuing series of quarterly Navy M&S Technical Interchange meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Continued to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

FY 2005 Plans:

- Promote and enhance state-of-practice and technology within the Navy M&S community.
- Continue the development, servicing and use of NMSIS as directed under applicable DoD DIR, SECNAVINST,

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PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

and OPNAVINST.

- Organize and facilitate a continuing series of quarterly Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Continue to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

FY 2006 Plans:

- Promote and enhance state-of-practice and technology within the Navy M&S community.
- Continue the development, servicing and use of NMSIS as directed under applicable DoD DIR, SECNAVINST, and OPNAVINST.
- Organize and facilitate quarterly Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Continue to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

FY 2007 Plans:

- Promote and enhance state-of-practice and technology within the Navy M&S community.
- Continue the development, servicing and use of NMSIS as directed under applicable DoD DIR, SECNAVINST, and OPNAVINST.
- Organize and facilitate quarterly Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Continue to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

	FY 2004	FY 2005	FY 2006	FY 2007
M&S QUALITY ASSURANCE PROGRAM	704	626	583	743

This activity implements and manages the Modeling and Simulation (M&S) Quality Assurance development of the Verification, Validation and Accreditation (VV&A) process and guidelines for modeling, simulation, and data. It reviews both new and legacy M&S VV&A plans and reports, and develops and maintains the Naval M&S VV&A repository. It establishes and implements a VV&A training curriculum for developers and accreditors, and

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PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

provides an annual VV&A assessment to CNO.

FY 2004 Accomplishments:

- Developed Details of Architecture Implementation within the VV&A Handbook.
- Developed a prototype cost model for estimating the verification and validation (V&V) costs.
- Tailored VV&A awareness training for Program Managers.
- Researched and identified formal statistical methods to validate M&S in order to establish credibility beyond the real world boundaries.
- Researched and provided M&S acquisition and development guidance.

FY 2005 Plans:

- Develop case studies within the VV&A Handbook.
- Incorporate information developed for training/education into the VV&A Handbook.
- Coordinate with Department of Defense (DoD) and Services to identify new data entry fields for VV&A common to all M&S Resource Repositories.
- Coordinate with the Navy Modeling and Simulations Information System (NMSIS) effort to update VV&A data entry fields and Beta test new data entry fields as required.
- Research and develop methodologies for evaluating commercial off the shelf (COTS) tools used to develop valid M&S.

FY 2006 Plans:

- Develop further case studies within the VV&A Handbook.
- Incorporate information developed for training/education into the VV&A Handbook.
- Coordinate with DoD and Services to identify new data entry fields for VV&A common to all M&S Resource Repositories.
- Coordinate with the NMSIS effort to update VV&A data entry fields and Beta test new data entry fields as required.
- Research and develop methodologies for evaluating COTS tools used to develop valid M&S.

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PROGRAM ELEMENT: 0308601N

PROJECT NUMBER: R2222

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT TITLE: MODELING & SIMULATION

FY 2007 Plans:

- Develop further case studies within the VV&A Handbook.
- Incorporate information developed for training/education into the VV&A Handbook.
- Coordinate with DoD and Services to identify new data entry fields for VV&A common to all M&S Resource Repositories.
- Coordinate with the NMSIS effort to update VV&A data entry fields and Beta test new data entry fields as required.
- Research and develop methodologies for evaluating COTS tools used to develop valid M&S.

	FY 2004	FY 2005	FY 2006	FY 2007
SIMULATION EXPERIMENTS	2,656	3,364	3,202	3,570

This activity supports Fleet exercises and experiments through the application of distributed simulations across a wide variety of warfighting and supporting communities. Specifically, it develops and integrates appropriate models and simulations into the Fleet Battle Experiments (FBE), and develops simulation efforts to test and evolve the standards for models, interfaces, and data. It supports development of tools necessary to enable the seamless access and use of operationally relevant M&S products to support Navy training, warfare assessments and acquisition requirements.

FY 2004 Accomplishments:

- Continued to define Fleet training initiatives and M&S enhancements.
- Supported Fleet Battle Experiment - Kilo (FBE-K) using a synergetic M&S approach.
- Defined the Landing Platform Dock (LPD 17) Amphibious Ship Use Case Environment Concept Model.
- Continued development of Virtual at Sea Training Deployable Prototype (VAST DP) to exercise Naval Surface Fire Support (NSFS) missions. Supported inclusion of tactical aircraft (TACAIR) in the VAST training system to complete the combined arms team training capability.
- Continued development of a Virtual at Sea Training - Aviation Component (VAST-AC) to allow USN/USMC TACAIR to participate in mission specific training to include amphibious or urban operations training by providing close air support (CAS) services against synthetic targets within a synthetic environment.
- Continued development of Maritime Virtual Environmental Data Specifications (MARVEDS) focused on the standard environmental data as distributed to multiple Program Executive Offices (PEOs).
- Expanded the Virtual Missile Range (VMR) capability to include the North Atlantic Treaty Organization

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PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

(NATO) SeaSparrow Missile System and upgraded threats.

- Provided direct support to CVN-21 and Multi-Mission Aircraft (MMA) programs to develop their initial simulation environments.
- Provided direct support to Navy component, Joint Training Confederation (JTC) at Joint Force Command (JFCOM) and Korea Battle Center (Ulchi Focus Lens)

FY 2005 Plans:

- Continue to define Fleet training initiatives and M&S enhancements.
- Perform FBE-L and the Olympic Challenge series of Joint experimentations using a synergetic M&S approach.
- Continue development of the VAST range concept to provide the capability to conduct training in a virtual environment that would normally require a land-based training range, or would otherwise be cost or schedule prohibitive.
- Document the elements of the maritime virtual environment and effects models that can be used effectively to enable reuse in naval simulations - best practices where standards are not yet feasible.
- Continue upgrade of VMR virtual threat capabilities.

FY 2006 Plans:

- Continue to define Fleet training initiatives and M&S enhancements.
- Support FBEs and the Olympic Challenge series of Joint experimentations using a synergetic M&S approach.
- Continue development of the VAST range concept to provide the capability to conduct training in a virtual environment that would normally require a land-based training range, or would otherwise be cost or schedule prohibitive.
- Document the elements of the maritime virtual environment and effects models that can be used effectively to enable reuse in Naval simulations - best practices where standards are not yet feasible.
- Continue upgrade of VMR virtual threat capabilities.

FY 2007 Plans:

- Continue to define Fleet training initiatives and M&S enhancements.
- Support FBEs and the Olympic Challenge series of Joint experimentations using a synergetic M&S approach.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: R2222

PROJECT TITLE: MODELING & SIMULATION

- Continue development of the VAST range concept to provide the capability to conduct training in a virtual environment that would normally require a land-based training range, or would otherwise be cost or schedule prohibitive.
- Document the elements of the maritime virtual environment and effects models that can be used effectively to enable reuse in Naval simulations - best practices where standards are not yet feasible.
- Continue upgrade of VMR virtual threat capabilities.

C. OTHER PROGRAM FUNDING SUMMARY:

NAVY RELATED RDT&E:

PE 0603235N (Common Picture Advanced Technology)

NON-NAVY RELATED RDT&E:

Not applicable.

D. ACQUISITION STRATEGY:

Not applicable.

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROJECT NUMBER: Various

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R2810	FY 2004	FY 2005
MODELING AND SIMULATION TO SUPPORT C4ISR DEVELOPMENT	6,497	5,943

FY 2004: This effort provided for enhancement of technologies that support fleet training, distributed simulation, and production engineering. The program supported Modeling & Simulation initiatives in architecture assessment, command and control assessment, model development to support network/communications analysis, and production engineering and training, to include the development of composite standards for simulations architectures.

FY 2005: This effort provides for development of emerging technologies in support of the Navy and DOD transformation. These technologies will be enhanced by the use of various modeling and simulation techniques that afford a more efficient and effective use of resources in an evolving environment. The premise surrounding this effort is the better the Navy can model and simulate actions/techniques to create greater interoperability amongst joint forces, the greater the success rate will be once the effort is integrated into the operational environment.

R9653	FY 2004	FY 2005
GLOBAL ENGINEERING METHODOLOGY INITIATIVE FOR NAVAL INTEGRATION AND INTEROPERABILITY	0	2,772

FY 2005: This effort integrates Navy Tool for Interoperability Risk Assessment (NTIRA) data with system attribute data from other authoritative sources. Systems and attributes will be assigned to a mission thread by reading authoritative sources (i.e., Global Engineering Methodology Initiative for Integration and Interoperability (GEMINII)/ForceNet Implementation Base Line (FIBL). End-to-end "interaction requirements" and dependencies will be defined between the systems supporting the mission activities and C2 processes. This model will measure composeability and adaptability of the end-to-end system architecture in support of the mission thread and C2 process, and optimize between legacy and FORCENet Distributed Services. An interface to M&S systems for additional modeling (performance or warfighting effects) of these threads will be provided.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT NUMBER: Various

PROJECT TITLE: Congressional Plus-Ups

R9654	FY 2004	FY 2005
JOINT ANALYTICAL MODELING IMPROVEMENT PROGRAM (JAMIP) JWARS	0	3,864

FY 2005: This effort addresses the significant limitations of existing theater-level simulations to provide analytic support to senior officials. JAMIP involves a four-pronged approach to upgrade the capability of joint modeling to accurately assess the capabilities of Navy forces and programs to execute U.S. strategy within the constraints of resources. Current JAMIP goals are to continue development of the top-priority joint warfare model and to provide data support for the integration and enhancement of existing models as directed by the Deputy Secretary of Defense and endorsed by the Vice Chairman of the Joint Chiefs of Staff. One of the primary components of JAMIP is the development of the Joint Warfare System (JWARS), which will be a state-of-the-art, closed-form, constructive simulation of multi-sided, joint warfare for analysis. JWARS is also used in the Global Engineering Methods Initiative for Integration and Interoperability (GEMINII) War Room Assessment Toolset. Assessments are formal processes that demonstrate the implications of proposed solutions with the insight of modeling applications. The GEMINII Process was developed to facilitate performance of capability-based assessments that define composable mission services. The toolset is currently used for Program Objective Memorandum (POM)-type assessments and JWARS provides insights to the effects on the warfighter.

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Exhibit R-3

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0308601N

PROJECT NUMBER: Various

PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

PROJECT TITLE: Congressional Plus-Ups

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY-05 Cost	FY-05 Award Date	FY-06 Cost	FY-06 Award Date	FY-07 Cost	FY-07 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Navy M&S Info Sys Development	Various	Various		933	TBD	995	TBD	1173	TBD	Cont.	Cont.	Cont.
Quality Assurance	Various	Various		633	TBD	583	TBD	738	TBD	Cont.	Cont.	Cont.
Subtotal Product Development				1566		1578		1911		Cont.	Cont.	Cont.
M&S Services	Various	Various		1217	TBD	1005	TBD	1177	TBD	Cont.	Cont.	Cont.
Subtotal Support				1217		1005	TBD	1177		Cont.	Cont.	Cont.
Simulation Experiments	Various	Various		3404	TBD	3200		3550		Cont.	Cont.	Cont.
Subtotal T&E				3404		3200		3550		Cont.	Cont.	Cont.
Engineering Studies/Analyses	Various	Various		1075	TBD	1025	TBD	1150	TBD	Cont.	Cont.	Cont.
Program Management												
Subtotal Management				1075		1025		1150		Cont.	Cont.	Cont.
Total Cost				7262		6808		7788		Cont.	Cont.	Cont.

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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION: Unclassified

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 2 of 2)

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0702207N Depot Maintenance (Non-IF)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	8.524	7.000	10.012	3.200				
3030 F-18 SLAP	1.000	7.000	10.012	3.200				
2451 P-3 SLAP	7.524							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural condition of the F/A-18 fleet in order to determine what structural modifications are necessary to extend the aircraft designed service life and allow it to achieve inventory requirements. The Resource Sponsor (N78) has indicated an urgent need to assess the structural condition of the F/A-18 fleet to determine whether the structural condition supports OPNAV Tactical Aircraft inventory requirements through fiscal year FY 2023. It is known that F/A-18 aircraft built prior to Lot 18 are limited to 78% of their design fatigue life due to structural cracking in the section of the fuselage known as the "Center Barrel". The Center Barrel Replacement Plus (CBR+) program eliminates structural life limitations caused by cracking in the Center Barrel. The airframe structure also has landing and flight hours limitations, both of which must be addressed to extend the designed service life of the aircraft. The F/A-18 A/B/C/D aircraft structure is being assessed to determine the life limit on landings and flight hours for all four models (Lot 8 aircraft and above). Currently the aircraft structure is limited to 8,300 landings and 6,000 flight hours. The goal of the SLAP program will be to identify critical structure to allow total landings to be increased to 14,500 and flight hours to 12,000. This increase in total landings and flight hours would allow the F/A-18 A/B/C/D to meet OPNAV Tactical Aircraft inventory requirements through fiscal year FY 2023, to include planning for the announced one year JSF slide. These efforts are required to be conducted for these airframes to ascertain what actions must be taken to safely operate each system until the targeted end of service life.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 10)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0702207N Depot Maintenance				PROJECT NUMBER AND NAME 3030 F/A-18 Service Life Assessment Program (SLAP)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.000	7.000	10.012	3.200				
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural condition of the F/A-18 fleet in order to determine what structural modifications are necessary to extend the aircraft designed service life and allow it to achieve inventory requirements. The Resource Sponsor (N78) has indicated an urgent need to assess the structural condition of the F/A-18 fleet to determine whether the structural condition supports OPNAV Tactical Aircraft inventory requirements through fiscal year FY 2023. It is known that F/A-18 aircraft built prior to Lot 18 are limited to 78% of their design fatigue life due to structural cracking in the section of the fuselage known as the "Center Barrel". The Center Barrel Replacement Plus (CBR+) program eliminates structural life limitations caused by cracking in the Center Barrel. The airframe structure also has landing and flight hours limitations, both of which must be addressed to extend the designed service life of the aircraft. The F/A-18 A/B/C/D aircraft structure is being assessed to determine the life limit on landings and flight hours for all four models (Lot 8 aircraft and above). Currently the aircraft structure is limited to 8,300 landings and 6,000 flight hours. The goal of the SLAP program will be to identify critical structure to allow total landings to be increased to 14,500 and flight hours to 12,000. This increase in total landings and flight hours would allow the F/A-18 A/B/C/D to meet OPNAV Tactical Aircraft inventory requirements through fiscal year FY 2023, to include planning for the announced one year JSF slide. These efforts are required to be conducted for these airframes to ascertain what actions must be taken to safely operate each system until the targeted end of service life.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0702207N DEPOT MAINTENANCE	PROJECT NUMBER AND NAME 3030 F/A Service Life Assessment Program (SLAP)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.000</td><td style="text-align: center;">7.000</td><td style="text-align: center;">10.012</td><td style="text-align: center;">3.200</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.000	7.000	10.012	3.200	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.000	7.000	10.012	3.200															
RDT&E Articles Quantity																			
Continue to conduct analysis of aircraft structures and complete Cat/Trap/Flight Hour analysis and technical support.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0702207N DEPOT MAINTENANCE	3030 F/A Service Life Assessment Program (SLAP)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	0.000	0.000	0.000	0.000
Current BES/President's Budget	1.000	7.000	10.012	3.200
Total Adjustments	1.000	7.000	10.012	3.200

Summary of Adjustments

Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer				
Other Adjustments		7.000	10.012	3.200
Economic Assumptions				
Reprogrammings	1.000			
Congressional increases				
Subtotal	1.000	7.000	10.012	3.200

Schedule:

The FY 2003 President's Budget identified a requirement for a Service Life Assessment Program (SLAP) to conduct a structural assessment for F/A-18 aircraft built prior to lot 18 aircraft to determine the life limit on landings and achieve structural capability to allow total landings to be increased to 14,500. A subset of this effort was to extend Cat/Trap's to 2,700. The FY 2003 President's Budget R-2a exhibit schedule shows the Cat/Trap extension effort through 31 December 2004. Towards this goal, it is evident that in order to achieve the 2,700 Cat/Trap extension, ground load affected structure analyses (e.g., crack growth analysis of selected locations and fatigue lives) are required. These efforts are within the scope and parameters set forth in the FY 2003 President's Budget and will continue through FY 2007.

Technical:

This SLAP continuation will also examine extending the flight hour life of the aircraft from 6,000 hours to 12,000 hours, which will equate with the growth in total landings from 8,300 to 14,500. The flight hour affected structure analysis, fleet usage based flight spectrum analysis and fatigue load development analysis will complete in FY 2007. As with the current Cat/Trap limitation, the current 6,000 flight hour restriction will also jeopardize grounding aircraft without these analyses.

R-1 SHOPPING LIST - Item No. 208

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 4 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0702207N DEPOT MAINTENANCE			PROJECT NUMBER AND NAME 3030 F/A Service Life Assessment Program (SLAP)					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-5 P.E. 0204136N F/A-18 Squadrons OSIP (11-99) Service Life Management Program	30.743	102.732	86.693	111.591	113.98	115.366	123.262	124.768	283.9	1186.7
E. ACQUISITION STRATEGY: *										
The SLAP program employs sole source contracts with Boeing, the aircraft prime manufacturer. SLAP consists of structural analyses of the main landing gear, arresting hook, catapult structures, vertical tails, wings and fuselage. These analyses will provide for the development of aircraft rework necessary to extend total aircraft landing from 8,300 to 14,000 catapults and arrestments from 2,000 to 2,700 flight hours from 6,000 to 12,000. Engineering Charge Proposals(ECPs) generated by the SLAP analysis will be incorporated into Service Life Management Program(SLMP) under OSIP (11-99).										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0702207N DEPOT MAINTENANCE			3030 F/A Service Life Assessment Program (SLAP)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	CPFF	BOEING. St. Louis	12.226	7.000	01/05	10.012	01/06	3.200	01/07		32.438	32.438
Systems Engineering	WX	NAWCAD, Pax River, MD	1.148								1.148	
Systems Engineering	WX	NADEP, North Island, CA	3.608								3.608	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			16.982	7.000		10.012		3.200		0.000	37.194	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0702207N DEPOT MAINTENANCE			3030 F/A Service Life Assessment Program (SLAP)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Support	WX	Various	1.747								1.747	
Travel	WX	NAVAIR, PAX RIVER, MD	0.065								0.065	
											0.000	
Subtotal Management			1.812	0.000		0.000		0.000		0.000	1.812	
Remarks:												
Total Cost			18.794	7.000		10.012		3.200		0.000	39.006	
Remarks:												









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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 10)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0702207N DEPOT MAINTENANCE												3030 F/A SERVICE LIFE ASSESSMENT PROGRAM (SLAP)											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Contract Award																																			
1.1 Flight Load Structure Crack Growth Analysis Using Design Loads																																			
1.2 Flight Load Structure Usage Flight Spectrum Development																																			
1.3 Flight Load Structure Fatigue Loads Development																																			
1.4 Flight Load Structure Crack Initiation Life for 90% Spectrum Assessment																																			
2.1 Ground Load Structure Crack Growth Analysis Using 90% Loads																																			
2.2 Ground Load Structure Fatigue Life Assessment for 90% Spectrum																																			
3.0 Fleet Aircraft Teardown																																			

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 10)

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CLASSIFICATION:

[illegible]

Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
3030 F/A-18 SLAP	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total PE	62,791	59,775	57,753	58,001	60,210	61,650	62,973	64,323
R1050 MANUFACTURING TECHNOLOGY	52,786	56,047	57,753	58,001	60,210	61,650	62,973	64,323
R2674 NANO-IMPRINT/IMPROVE MANUFACTURER DEMO	10,005	3,728	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Manufacturing Technology (ManTech) program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. The ManTech program, by providing seed funding for the development of moderate to high risk process and equipment technology, permits contractors to upgrade their manufacturing capabilities. Ultimately, the program aims to produce high-quality weapon systems with shorter lead times and reduced acquisition costs.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROGRAM CHANGE SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2005 President's Budget	64,270	56,565	57,790	57,984
Cong Rescissions/Adjustments/Undist. Reductions	0	-572	0	0
Congressional Action	0	3,800	0	0
Non-Pay Inflation Adjustments	-60	0	0	0
Program Adjustments	0	-18	-29	-30
Rate Adjustments	0	0	-8	47
SBIR Assessment	-1,419	0	0	0
FY 2006/2007 President's Budget	62,791	59,775	57,753	58,001

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

COST: (Dollars in Thousands)

Project Number & Title	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
R1050 MANUFACTURING TECHNOLOGY	52,786	56,047	57,753	58,001	60,210	61,650	62,973	64,323

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Manufacturing Technology (ManTech) project is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. Major areas of endeavor both underway and planned include: advanced manufacturing technology for electronics assembly, laser metalworking, flexible computer manufacturing, composites, metal working, and welding technology. The ManTech project is being integrated into the Seapower 21 and Joint Warfare Operational Capability process and will utilize the results of these initiatives as appropriate in the program planning process. The ManTech project is aimed at assisting acquisition programs in meeting performance and affordability goals by inserting manufacturing process solutions early into the design phase.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2004	FY 2005	FY 2006	FY 2007
METALS PROCESSING AND FABRICATION	19,000	18,826	18,988	19,005

The objective of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing processes and capabilities for metals and special materials critical to defense weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, and inspection and compliance. These efforts directly impact the cost and performance of future aircraft, rotorcraft, land combat vehicles, surface and subsurface naval platforms, space systems, artillery and ammunition, and defense industry manufacturing equipment. Near-term efforts are focused on the Integrated Systems Investment Strategy platforms: DD(X); CVN 21; and Joint-Unmanned Combat Air Systems (J-UCAS). Future concentration will include projects applicable to Littoral Combat Ship development, submarines, and the Joint Strike Fighter (JSF).

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: R1050

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2004 Accomplishments:

- Continued Translational Friction Welding (TFW) of titanium engine blisks to improve affordability, readiness, and time-on wing for aircraft engines in support of F/A-18E/F and JSF programs.
- Continued development of high-productivity, cost-effective welding processes for large, thick-section, high-strength steel structures for enhanced survivability of DD(X) (Manufacturing Large Marine Structures).
- Continued Amphibious Assault Vehicle (AAV) Enhanced Appliqué Armor Kit (EAAK) Product Improvement for enhanced corrosion protection. Delivered sets were installed on units undergoing a six month deployment.
- Continued application of improved casting techniques to medium-size castings and transferred lessons learned to the Virginia-Class propulsor manufacturing process (Propulsor Affordability Initiative).
- Continued effort on ceramic coatings for corrosion protection in Allison 501 engines (Hot Section Corrosion Protection for 501-K34 Gas Turbine).
- Continued Modeling and Simulation for Carrier Construction Planning and Sequencing effort to support CVN 21.
- Continued rapid response and teaching factory activities.
- Completed process development of adhesive bonded Pi-joints to produce lighter, stronger, less expensive, and more damage tolerant primary aircraft structures for the JSF program (Aircraft Primary Structure Adhesive Bonding).
- Completed concept exploration for CVN 21 Metalworking Technology: conducted process development activities on thick section welding, hot/cold forming, Friction Stir Welding (FSW) on High Strength Lightweight Alloy (HSLA)-65 steels; initiated selection and design of Laser Corrugated (LASCOR) application; and developed process model for Hangar Bay Division Door (HBDD) fire scenarios.
- Completed concept exploration for J-UCAS effort by identifying key metalworking technology requirements for both Boeing and Northrop Grumman J-UCAS developmental unmanned air systems.
- Completed development of Single-Melt Process for Reduced-Cost Titanium Alloys for Marine Corps Lightweight 155MM Howitzers for potential cost avoidance of \$5M/yr.
- Initiated evaluation of material properties of small-scale production heat of 10%Ni material for CVN 21 (High Strength and Toughness Naval Steels for Ballistic Protection (Ballistic 10%Ni Steel)).
- Initiated analysis with Naval Surface Warfare Center (NSWC) and Northrop Grumman Ship Systems (NGSS) of key components and substructures that can be converted to low-cost titanium for center of gravity and structural weight savings on CVN 21 (Issues Associated with the Fabrication of Titanium Components for CVN 21).
- Initiated development of a system to automate thermal plate forming of complex steel shapes to reduce the fabrication cost and improve the signature of the DD(X) (Automated Thermal Plate Forming).

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Initiated development of optimal welding procedures to permit use of 10%Ni steel to reduce weight and cost of the CVN 21 aircraft carrier (Welding Development for 10%Ni Steel).
- Initiated development of cost effective joining processes for titanium structures and bimetallic transition joints to reduce weight and center of gravity of the CVN 21 (Fabrication of Titanium Components for CVN 21).
- Initiated Laser Welded Lightweight Panel Structure Fabrication and Application to CVN 21, developed inter-panel joint concepts and preliminary design concept to improve productivity. Investigated commercial sources for panels to ameliorate weight issues associated with design of the next generation carrier.
- Initiated development of preliminary designs and manufacturing concepts, identifying material changes and specific processes to be improved (Advanced Surface Ship Watertight Closures).
- Initiated development of two diameters of electrodes capable of meeting ballistic performance requirements in welded HSLA-100 and HY-100 steels for CVN 21 applications (Availability of Submersible Arc Weld (SAW) Electrode (Mil-10718-M) Required for Ballistic Performance Requirements).
- Initiated Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 heavy plate erection units.
- Initiated development of Cost-Effective, Low-Manganese Flux Core Welding Electrode for joining High-Strength Steels for CVN 21 applications.
- Initiated process improvements to DD(X) Program on surface hull treatment application processes to support critical design review schedule (DD(X) Advanced Bonding Methods for Steel Structures).

FY 2005 Plans:

- Continue all efforts of FY 2004 less those noted as completed above.
- Continue to pursue manufacturing process improvements supporting CVN 21 and J-UCAS. Establish manufacturing development teams and initiate projects in support of submarines (Advanced Metalworking Technology).
- Complete testing and validation of adhesive bonded joints to support critical design review and technical insertion to reduce radar cross section, weight, and life-cycle costs for DD(X) program (Large Marine Composite-to-Steel Adhesive Joints).
- Complete transition of high-productivity, cost-effective welding processes for large, thick-section, high-strength steel structures to shipyard production to enhance the survivability of DD(X) (Manufacturing Large Marine Structures).
- Complete development of optimal welding procedures for 10%Ni steel to reduce weight and cost of the CVN 21 aircraft carrier (Welding Development for 10%Ni Steel).

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Complete manufacture and testing of 1/8 inch and 5/32-inch electrodes and revise procurement specification for CVN 21 (Availability of SMAW Electrode (Mil-10718-M) Required for Ballistic Performance Requirements).
- Complete development of cost-effective joining processes for titanium structures and bimetallic transition joints for application to CVN 21 aircraft carriers (Fabrication of Titanium Components for CVN 21).
- Complete effort on AAV EAAK effort by evaluating armor sets upon return from deployment and provide process details to Marine Corps (AAV EAAK Product Improvement).
- Complete Propulsor Affordability Initiative by pouring of a large, cored blade and section of hub and installing high speed machining capability at the Navy Foundry.
- Initiate J-UCAS Metallic Manufacturing Technology Transition effort to integrate with the Composites-J-UCAS Systems Design and Manufacturing Development (SDMD), Boeing St. Louis.
- Initiate extended metallurgical and manufacturing evaluation for 10%Ni steel implementation for use in the CVN 21 program.
- Initiate implementation of Steel Investment Castings effort to enhance reliability and decrease cost for the M777 Lightweight Howitzer.
- Initiate Turbine Inspection Techniques effort.
- Initiate Hybrid Laser Beam Welding effort.
- Initiate and complete Optimization of Virginia Class Submarine Facility Utilization effort.
- Initiate Erosion Resistant Coatings for Stage I Compressor Blinks effort.
- Initiate FSW effort for Littoral Combat Ship.
- Initiate J-UCAS Structural Welding effort.
- Initiate Weld Quality Improvement/Distortion Reduction effort for CVN 21 carriers.
- Initiate metalworking/joining manufacturing process improvements supporting CVN 21, J-UCAS, and Littoral Combat Ship.

FY 2006 Plans:

- Continue all efforts of FY 2005 less those noted as completed above.
- Complete Hot Section Corrosion Protection for 501-K34 Gas Turbine effort.
- Complete Modeling and Simulation for Carrier Construction Planning and Sequencing effort for CVN 21.
- Complete the Laser Welded Lightweight Panel Structure Fabrication and Application to CVN 21 effort.
- Complete DD(X) Collarless Construction effort.
- Complete Development of Cost-Effective, Low-Manganese Flux Core Welding Electrode for Joining High-Strength Steels effort with shipyard verification of trial production advanced weld wire.

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Complete Improved Affordability of Titanium Parts for Marine Corps M777 Lightweight 155MM Howitzer effort by implementing flow formed titanium tubes into full rate production.
- Complete J-UCAS Structural Welding effort.
- Complete Weld Quality Improvement/Distortion Reduction effort for CVN 21 carriers.

FY 2007 Plans:

- Continue all efforts of FY 2006 less those noted as completed above.
- Continue metalworking/joining manufacturing process improvements supporting CVN 21, J-UCAS, and Littoral Combat Ship.
- Complete Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units by construction of a superlift assembly.
- Complete Automated Thermal Plate effort by demonstrating a system for automated thermal plate forming of complex steel shapes to reduce fabrication cost and signature of the DD(X).
- Complete process improvements to DD(X) effort for surface hull treatment application processes to support critical design review schedule. (DD(X):Advanced Bonding Methods for Steel Structures.)
- Complete FSW effort for Littoral Combat Ship.
- Complete High Strength and Toughness Naval Steels for Ballistic Protection (Ballistic 10Ni Steel) effort.
- Complete the Laser Welded Lightweight Structure Panel Fabrication for CVN 21 (Application Development of LASCOR) effort: Design, fabrication, testing, and final application demonstration for various repair, stud attachment, and joining technologies.
- Complete specifications for the manufacture of an interior, watertight door for the CVN 21 (Advanced Surface Ship Watertight Closures).
- Complete Turbine Inspection Techniques effort.

	FY 2004	FY 2005	FY 2006	FY 2007
OTHER (REPAIR TECH, ENERGETICS, GULF COAST, AND TECHNICAL ENGINEERING SUPPORT)	10,200	9,413	8,994	9,003

The "Other" activity includes repair technology, energetics, and technical engineering support. Repair technology addresses repair, overhaul, and sustainment functions that emphasize remanufacturing processes and advancing technology. Energetics efforts concentrate on developing energetics solutions to ensure the availability of safe, affordable, and quality energetics products largely in support of Program Executive

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

Office (PEO) Integrated Warfare Systems (IWS).

FY 2004 Accomplishments:

- Continued to provide technical engineering support for the ManTech program.
- Continued HAZMAT Analyzer effort to build and evaluate hand-held analyzer that can provide test results for determining presence of Poly-Chlorinated Biphenyl (PCB) contamination.
- Continued Helicopter Blade Refurbishment effort to develop worker-health and environmentally sensitive de-painting processes for helicopter main rotor blades.
- Continued Polycan Fabrication effort to develop a manufacturing process to reduce the cost and lead-time associated with polycan fabrication; demonstrated a proof of concept at Pearl Harbor Naval Shipyard that indicated a 50% labor savings, \$17,000 per ship material savings and increased safety.
- Continued qualification of a laser cladding process to apply corrosion protection to Vertical Launch System tube areas; demonstrated alpha tool and identified two new alloys specifically designed for stagnant seawater applications. (Vertical Launch System Tube Repair)
- Continued demonstration of metals removal and wastewater solids recycling process. (Waste Water Solids Recycling)
- Continued work with ATK Thiokol Propulsion to scale-up and implement the alternative manufacturing process. (Alternative Manufacture of Energetic Material 1,3,5-triamino-2,4,6-trinitrobenzene (TATB))
- Continued development of a continuous co-extrusion process for the manufacture of co-layered propellants. (Co-Layered Propellant Manufacturing)
- Continued development and demonstration of integrated assembly and packaging techniques for miniature explosive train components contained in the Safety and Arming device of the Canistered Countermeasure Set, Anti-Torpedo. (Low Cost, Reliable Packaging & Integration of Miniaturized Explosive Components)
- Continued to develop an international standard of equipment boundaries and identifiers for collecting and exchanging performance data for shipbuilding.
- Continued developing a modeling and simulation-based framework for a shipyard Manufacturing Process Planning System to improve the effectiveness of shipyard production planning. Cost savings in excess of \$22M are expected in the construction of the first two DD(X) hulls. (DD(X): Manufacturing Process Modeling and Fabrication)
- Completed development of a database of appliqué coating system adhesion to modeled substrates and to identified / developed improved removal methods for appliqué coating systems that reduce processing and maintenance resources without adversely affecting aircraft. (Aircraft Appliqué)

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Completed development of Occupational Safety and Health Administration Compliance Management System for shipyards.
- Completed assessment of optimum process parameters and combinations of parameters that shipyards can use to minimize emissions and maximize productivity. (Environmentally-Friendly Abrasives)
- Initiated use of "Super Finishing Process" to salvage helicopter gears and reduce procurement and maintenance costs. Designed modifications for test stands to allow testing of CH-46 gears and defined an acceptance test plan for approval by NAVAIR. (CH-46 Gear Repair)
- Initiated development of a safer, repeatable, cost effective and environmentally sound alternative to live fire testing of M198, M777 and M1A1 recoil assemblies. (M198 Howitzer Mechanism Recoil Testing)
- Initiated evaluation of the time and resources required to implement Unique IDentifier (UID) at Navy and Marine Corps depot maintenance activities. (Unique Identifier Joint Implementation Assessment)
- Initiated project to identify technologies to reduce the time and costs of alignment and inspection procedures associated with the maintenance of submarines. (Alignments and Inspections)
- Initiated the creation of a methodology to track the Cost of Poor Quality system being used by Northrop Grumman Ship Systems. Eliminating poor quality can reduce cost by 25 - 30%. (Institutionalizing Corporate Initiatives: The Northrop Grumman Cost of Poor Quality System)
- Initiated development of a ship product design and development process that leverages Six Sigma program benefits. (Ship system Design for Six Sigma)
- Initiated project to define a Design for Six Sigma (DFSS) process that couples ship design and operation to the existing efforts in lean six sigma production processes. (Lean Six Sigma (for Shipbuilding))
- Initiated development of a predictive capability for analysis and design for avoidance of excessive high-speed catamaran cross-deck slamming. (Wet-Deck Slamming of High-Speed Catamarans)
- Initiated investigation into solutions for documenting, modeling, and standardizing assembly processes for interim products used in U.S. ship construction. (Improving Shipyard Assembly)
- Initiated development of a nonlinear dynamics based analysis approach for advanced hulls which can be used to supplement the current Navy simulation and model testing analysis approach. (Combined Seakeeping and Maneuvering Survival Analysis of Advanced Naval Hull Forms)
- Initiated Virginia-Class structural fabrication facility design effort to incorporate Product Centric manufacturing principles and robotic processes into self-sufficient and self-governing product lines. (Product Centric Facility Design)
- Initiated development of a man-portable Gas Metal Arc (GMA) welder for shipyard applications.
- Initiated evaluation of feasibility of welding High-Strength Low-Alloy (HSLA)-100 steel with reduced preheat, specifically for submerged arc welding of plates more than 1 5/8 inch thick and GMA welding of plates more than one inch thick.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Initiated wireless automated diagnostics / prognostics, monitoring diesel engines of mobile yard equipment, in coordination with the National Shipbuilding Research Program.
- Initiated predictive weld distortion in submarine structures.
- Initiated program to develop standards and processes for digital radiography of piping and plate welds supporting CVN 21 and Virginia-Class construction non-destructive testing. (Digital Radiography)
- Initiated effort to minimize distortion and resulting re-work and costs in Virginia-Class hull ring manufacturing. (Weld Distortion Prediction Initiative)

FY 2005 Plans:

- Continue all efforts of FY 2004 less those noted as completed above.
- Complete qualification of a laser cladding process to apply corrosion protection to Vertical Launch System tube areas. Complete and test the beta tool and conduct corrosion testing of new alloys. [Vertical Launch System Tube Repair]
- Complete demonstration of metals removal and wastewater solids recycling process. [Waste Water Solids Recycling]
- Complete evaluation of the time and resources required to implement UID at Navy and Marine Corps depot maintenance activities. [Unique Identifier Joint Implementation Assessment]
- Complete development of environmentally and worker-health sensitive de-painting processes for helicopter main rotor blades. [Helicopter Blade Refurbishment]
- Complete evaluation and testing of manufactured TATB. [Alternative Manufacture of Energetic Material (TATB)]
- Complete development of an international standard of equipment boundaries and identifiers for collecting and exchanging performance data for shipbuilding.
- Complete development of a modeling and simulation-based framework for a shipyard Manufacturing Process Planning System to improve the effectiveness of shipyard production planning. [DD(X): Manufacturing Process Modeling and Fabrication]
- Complete development of a nonlinear dynamics based analysis approach for advanced hulls which can be used to supplement the current Navy simulation and model testing analysis approach. [Combined Seakeeping and maneuvering Survival Analysis of Advanced Naval Hull Forms]
- Complete development and demonstration of a continuous co-extrusion process for the manufacture of co-layered propellants. [Co-Layered Propellant Manufacturing]
- Complete demonstration of integrated assembly and packaging techniques for miniature explosive train components contained in Safety and Arming (S&A) Devices and transition optimized processes to industry for

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PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

implementation and production of the canistered countermeasure anti-torpedo. [Low Cost, Reliable Packaging & Integration of Miniaturized Explosive Components]

- Complete effort with Northrop Grumman Ship Systems to implement DFSS procedures. [Lean Six Sigma (for Shipbuilding)]
- Complete wireless automated diagnostics / prognostics project and implement on mobile diesel engines in shipyards.
- Initiate Repair Technology projects based on high priority depot needs.
- Initiate energetics efforts to support PEO(IWS) and other acquisition programs.
- Initiate shipbuilding efforts for Littoral Combat Ship, CVN 21, and others.
- Initiate development of new weld size and inspection criteria based on fitness for service. [Portable Weld Inspection Management System]
- Initiate development of a pre-production laser / GMA hybrid pipe welding system. [Laser / GMA Hybrid Pipe Welding System]
- Initiate development of a comprehensive technical training and data collection program for structural welders and fitters, applying elements of Best Practices Lean technologies.
- Initiate re-engineering internal supply chain / material delivery process.
- Initiate the development and implementation of transient thermal tensioning of thin steel ship panel structures at Northrop Grumman Ship Systems for use in the construction of LPD, DDG, LHD, and DD(X). [Thermal Tensioning of Thin Steel Ship Panel Structures]
- Initiate and complete Mid-Tier Shipyard Capability Assessment effort.

FY 2006 Plans:

- Continue all efforts of FY 2005 less those noted as completed above.
- Complete development of a manufacturing process to reduce the cost and lead-time associated with polycan fabrication. (Polycan Fabrication)
- Complete development of "Super Finishing Process" to salvage helicopter gears and reduce procurement and maintenance costs. (CH-46 Gear Repair)
- Complete building and evaluation of hand-held analyzer that can provide test results for determining presence of PCB contamination. (HAZMAT Analyzers)
- Complete development of a safer, repeatable, cost effective and environmentally sound alternative to live fire testing of M198, M777 and M1A1 recoil assemblies. (M198 Howitzer Mechanism Recoil Testing)
- Complete project to identify technologies to reduce the time and costs of alignment and inspection procedures associated with the maintenance of submarines. (Alignments and Inspections)

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PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Complete the methodology to track the Cost of Poor Quality system being used by Northrop Grumman Ship Systems. (Institutionalizing Corporate Initiatives: The Northrop Grumman Cost of Poor Quality System)
- Complete development of a ship product design and development process that leverages Six Sigma program benefits. (Ship system Design for Six Sigma)
- Complete development of a predictive capability for analysis and design for avoidance of excessive high-speed catamaran cross-deck slamming. (Wet-Deck Slamming of High-Speed Catamarans)
- Complete investigation into solutions for documenting, modeling, and standardizing assembly processes for interim products used in U.S. ship construction. (Improving Shipyard Assembly)
- Complete Virginia-Class structural fabrication facility design effort to incorporate product centric manufacturing principles and robotic processes into self-sufficient and self-governing product lines. (Product Centric Facility Design)
- Complete development of a man-portable GMA welder for shipyard applications.
- Complete evaluation of feasibility of welding HSLA-100 steel with reduced preheat, specifically for submerged arc welding of plates more than 1 5/8 inch thick and GMA welding of plates more than one inch thick.
- Initiate/Continue Repair Technology projects based on high priority depot needs.
- Initiate/Continue energetics efforts to support Program Executive Office (PEO) for Integrated Warfare Systems (IWS) and other acquisition programs.
- Initiate/Continue shipbuilding efforts for Littoral Combat Ship, CVN 21, and others.

FY 2007 Plans:

- Continue all efforts of FY 2006 less those noted as completed above.
- Initiate/Continue Repair Technology projects based on high priority depot needs.
- Initiate/Continue energetics efforts to support PEO IWS and other acquisition programs.
- Initiate/Continue shipbuilding efforts for Littoral Combat Ship, CVN 21, and others.

	FY 2004	FY 2005	FY 2006	FY 2007
ELECTRONICS PROCESSING AND FABRICATION	10,000	9,908	9,994	10,003

Electronics Processing and Fabrication efforts develop and deploy affordable, robust manufacturing processes and capabilities for electronics critical to defense applications over their full life cycle. Efforts create new and improved manufacturing processes on the shop floor, as well as repairing and maintaining facilities such as depots and logistics centers, with a strong emphasis on process maturation. Near-term efforts are focused on the Integrated Systems Investment Strategy platforms: DD(X), CVN 21, and J-UCAS. Future

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concentration will include efforts applicable to the Littoral Combat Ship, EA-18G, and Joint Strike Fighter (JSF).

FY 2004 Accomplishments:

- Continued Teaching Factory Outreach, Rapid Response: Supported transition of Aegis SPY-1 Radar to lead-free materials, re-engineered and reduced cost of the SQQ-32 hull penetrating cable, and manufactured PRC-112 battery cases which were deployed to Iraq and Afghanistan.
- Continued MicroElectroMechanical Systems (MEMS) Affordability Program: Completed all cost reduction efforts on existing Vibrating Beam Accelerometers (VBA) design and attempted to achieve tolerance and yield goals with the VBA sensor. Performance targets that would meet Extended Range Guided Munition (ERGM) requirements were not achieved - refocused program to current ERGM Inertial Measurement Units (IMU) supplier.
- Continued Microwave Monolithic Integrated Circuit (MMIC) Flip Chip Attach Production Processing: Completed transfer of MMIC bumping process to production fabrication line that supports the APG-79 production. Developed relationship with two second source suppliers and have received bumped die from one of the suppliers.
- Completed Power Electronics Manufacturing for DD(X): Achieved significant cost savings on existing Power Control Modules (PCM) for DD(X) through improvements in manufacturing, packaging, and component selection. Savings are estimated at \$1.5M per PCM.
- Completed Swimmer Deliver Vehicle (SDV) Energy Storage Improvement Program: Designed and developed two competing battery technologies for the SDV and delivered to Naval Surface Warfare Center (NSWC) CRANE for testing.
- Completed LINK-16 Low Cost Terminal effort on next generation Multifunction Information Distribution System (MIDS) Joint Tactical Radio System (JTRS) and Weapons Data Links.
- Completed Power Electronics Manufacturing for DD(X): Achieved significant cost savings on existing PCMs for DD(X) through improvements in manufacturing, packaging, and component selection.
- Continued Fiber Optic Interconnect Technology to develop an automated process to reduce touch labor hours and level of expertise required to terminate simple-mode fiber optic cables / harnesses on Navy platforms.
- Continued Navy Advanced Infrared Focal Plane Arrays effort to develop two color focal plane arrays.
- Continued Electro-Optics Rapid Response efforts such as fiber optic training and troubleshooting efforts to support integration of fiber into new and legacy aircraft and ships.
- Completed Fiber Optic Electrical Splice and implemented in Advanced Deployable System. Exceeded goals for cost reduction and increased strength and reduced manufacturing time per sensor.

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Completed Fiber Optic Acquisition Training Rapid Response effort to develop curriculum and teach initial class to NAVAIR professionals.
- Completed MK48 Advanced Capability (ADCAP) Torpedo Fiber Optic Guidance Tether effort to verify integrity and functionality of fiber data link to torpedo.
- Completed Remote Source Lighting effort to reduce costs and improve performance and implemented on LPD 17.
- Initiated Fiber Optic Ultra-Thin Line Towed Array Rapid Response effort to determine applicability of ultra thin low cost acoustic arrays for use in littoral sensing.

FY 2005 Plans:

- Continue all efforts of FY04 less those noted as completed above.
- Complete Fiber Optic Ultra-Thin Line Towed Array effort for the Unmanned Surface Vehicle (USV) and other Navy towed array applications.
- Complete Fiber Optic Interconnect Technology effort.
- Initiate Lead-Free & Environmentally Safe Manufacturing to reduce the risk of implementing current environmentally safe components and materials.
- Initiate Hermetic Sealing of Transmit/Receive (T/R) Modules to provide significant improvement in affordability of T/R Modules for SPY-3 radar through use of more commercial packaging and manufacturing methods.
- Initiate Manufacturing & Packaging of Power Systems for PEO Carriers and PEO Ships: Develop packaging methodologies for transmission and storage of switching devices and subsystems for pulsed power systems.
- Initiate ALQ-99 Band 4 Jammer effort.
- Initiate DD(X) / CVN 21 Manufacturing of Opto-Electronic Sensors effort.
- Initiate F-18 / DD(X) MMIC Flip Chip Second Source validation and transfer effort.
- Initiate effort on Helmet Mounted Displays to reduce cost and improve durability of F/A-18 and Joint Strike Fighter (JSF) helmet mounted visor.
- Initiate low cost, lightweight, multi-purpose Light Detection and Ranging (LIDAR) imaging systems for unmanned vehicles.
- Initiate effort on High Power Electronics with three vendors to facilitate implementation of silicon carbide into solid-state power systems for the Navy.
- Initiate Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the Littoral Combat Ship effort.

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2006 Plans:

- Continue all efforts of FY05 less those noted as completed above.
- Initiate Silicon Carbide Reliability/Failure analysis effort.
- Initiate Electro-Optic Sensors effort.
- Initiate Fiber Optics effort for J-UCAS.
- Initiate advanced electronics and electro-optics efforts geared towards improvements for the Littoral Combat Ship, EA-18G, and JSF.

FY 2007 Plans:

- Continue all efforts of FY06 less those noted as completed above.
- Complete the Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the Littoral Combat Ship effort.
- Initiate advanced electronics and electro-optics efforts geared towards improvements for the Littoral Combat System, EA-18G, and JSF.

	FY 2004	FY 2005	FY 2006	FY 2007
COMPOSITES PROCESSING AND FABRICATION	6,000	5,945	5,996	6,002

The primary technical goal of the Composites Processing and Fabrication activity is improving weapon systems affordability, enhancing weapon system effectiveness and improving reliability/war-fighter readiness through the increased utilization of composite materials and structures. This is being achieved through the development and maturation of affordable, robust manufacturing and assembly processes that fully exploit the benefits of composite materials. Near-term efforts are focused on the Integrated Systems Investment Strategy platforms: DD(X), CVN 21, and Joint Unmanned Combat Air Systems (J-UCAS). Future concentration will also include efforts applicable to the Littoral Combat Ship and Joint Strike Fighter (JSF).

FY 2004 Accomplishments:

- Continued to develop/optimize processing for composite marine impellers (Composite Marine Impellers).
- Completed development of manufacturing technologies to improve reliability, reduce weight, and enhance cost competitiveness of pressure vessels used in the Rolling Airframe Missile Pre-Planned Product Improvement program (RAMP3I)(Composite Pressure Vessel).

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Completed development of composite processing techniques for low-cost, structural armor system that reduced weight by 25%, part count by almost 90%, and cost of troop door assemblies on 1000 Expeditionary Fighting Vehicles (formerly Advanced Amphibious Assault Vehicle (AAAV))(Expeditionary Fighting Vehicle (EFV) Troop Ramp).
- Completed successful demonstration of integrated bleeding manufacturing process (IBMP) as a viable and cost-effective composite fabrication process for producing highly curved submarine cover plates (Composite Submarine Cover Plates).
- Completed identification of key J-UCAS aircraft structures requiring enhanced manufacturing affordability and initiated development of improved composite processing and assembly tasks (J-UCAS Concept Exploration).
- Initiated improvement of composites fabrication and assembly process to eliminate cracking of the Advanced Seal Delivery System (ASDS) stator system during operation, resulting in improved mission readiness and improved propulsion performance characteristics (ASDS Stator).
- Initiated effort to identify critical performance requirements and viable weight reduction opportunities for CVN 21 multi-functional composite ship structure. Follow-on phase was also initiated in FY04 (CVN 21 Weight Reduction).
- Initiated development of manufacturing processes to produce high temperature organic polymer radomes for the Phase III and IV Advanced Medium Range Air-to-Air Missile (AMRAAM) with required surface finish, tolerance control, quality control, and mounting methodology(Development of Manufacturing Processes to Produce High Temperature Capable Composite Radomes).

FY 2005 Plans:

- Continue all efforts of FY 2004 less those noted as completed above.
- Complete validation of materials and processes for integrated and bonded airframe primary structural applications for high performance aircraft (CAI Phase III - Integrated and Bonded Structures Validation).
- Complete engine qualification testing at General Electric Aircraft Engines and implement ManTech technology as baseline production process (Manufacturing Technology for Silicon Carbide Flaps and Seals).
- Complete qualification testing of improved stator for ASDS using Naval Sea Systems Command funds, install deliverable improved stator as baseline unit on Boat #1 and follow-on hulls, and transition technology to production vendor during manufacture of second improved stator (ASDS Stator).
- Complete investigation and refinement of low-cost composite manufacturing approaches for key vehicle areas identified under concept exploration phase (J-UCAS System Design and Manufacturing Demonstration Phase).
- Complete remaining DD63 article fabrication using automated insertion process and transition the

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

technology into F/A-18E/F (Automation of Z-Fiber for Complex Shape).

- Complete validation testing at Naval Surface Warfare Center (NSWC) Philadelphia Detachment for new coating candidate systems for propulsion shaft coatings and initiate transition of technology to Northrop Grumman Ship Systems, Puget Sound Naval Shipyard, Portsmouth Naval Shipyard, and Norfolk Naval Shipyard (Propulsion Shaft Composite Surface Treatment).
- Complete effort with manufacture of two composite impellers to be used in pump loop qualification testing funded by Submarine Program Office PMS 450 (Composite Marine Impellers).
- Complete effort by transitioning generic, multi-functional composite panel processing techniques to the shipyard, with a focus on specific CVN 21 applications such as sponsons, multi-functional radar house, deck edge elevator doors, etc. (CVN 21 Weight Reduction)
- Complete development of manufacturing processes to produce high temperature organic polymer radomes for the Phase III and IV Advanced Medium Range Air-to-Air Missile (AMRAAM) (Development of Manufacturing Processes to Produce High Temperature Capable Composite Radomes).
- Initiate Phase 1 to develop advanced manufacturing techniques for alternate Joint Strike Fighter (JSF) Weapons Bay Door (WBD) design that employs integrated structure concepts to reduce both weight and cost (Weapons Bay Door).
- Initiate effort to demonstrate new "as-built" manufacturing variability simulation and analysis techniques along with corrosion/fatigue resistant components using an EA-18G aileron demonstration article for future production transition (Affordable Control Surfaces).
- Initiate development of low cost Vacuum Assisted Resin Transfer Mold (VARTM) process to produce Virginia-Class "Special Feature" parts that do not require significant post processing/machining and meet drawing and performance specifications (Composite Manufacturing Technology for "Special Feature").

FY 2006 Plans:

- Continue all efforts of FY 2005 less those noted as completed above.
- Complete development efforts on Advanced Hawkeye satellite communications antenna and initiate application of technology to advanced antennas being developed by Program Executive Office (PEO) Integrated Warfare Systems (IWS) for CVN 21 application (Affordable Integrated Structural Apertures).
- Complete demonstration of advanced processing technology on full-scale EA-18G composite aileron and conduct verification testing on hardware (Affordable Control Surfaces).
- Complete the development of a low cost VARTM process to produce Virginia-Class "Special Feature" parts that do not require significant post processing/machining and meet drawing and performance specifications (Composite Manufacturing Technology for "Special Feature").

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Initiate projects in support of the Littoral Combat Ship and JSF and establish manufacturing development teams. Pursue manufacturing process improvements supporting CVN 21 and J-UCAS (Advanced Composites Manufacturing).

FY 2007 Plans:

- Continue all efforts of FY 2006 less those noted as completed above.
- Complete Full Scale Weapons Bay Door (WBD) Manufacturing Demonstration and Testing. (Weapons Bay Door)
- Initiate/Continue projects in support of the Littoral Combat Ship and JSF and establish manufacturing development teams. Continue to pursue manufacturing process improvements supporting CVN 21 and J-UCAS.

	FY 2004	FY 2005	FY 2006	FY 2007
CORPORATE INVESTMENTS	7,586	11,954	13,781	13,988

The Corporate Investments area (includes initiatives from the former Advanced Manufacturing Enterprise) is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices throughout the contractor base; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. Corporate Investment efforts create improvements to cost and cycle time for weapon system development, production, and repair.

FY 2004 Accomplishments:

- Continued Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continued Supply-Chain Practices for Affordable Navy Systems (SPANS) efforts in supply chain development and management technologies to improve the agility of the Navy manufacturing base and enhance the affordability of Navy weapon systems.
- Completed LPD 17 Lean-Pathways (LPW) Phase I effort with five Northrop Grumman Ship Systems (NGSS) suppliers for lead-time reductions, quality improvements, and integration of supplier integration efforts with the ships.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

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PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: R1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Completed Stand-off Land Attack Missile - Expanded Response LPW with nine suppliers, reducing missile delivery time from 75 weeks to 52 weeks at no increase in price.
- Completed Technology Refresh for Navy Information (TRENT) effort to identify a solution for optimizing technology refresh for Navy weapons systems by identifying a timely and cost-effective plan for each individual system based on anticipated parts obsolescence and technology road mapping.
- Completed Tin Whisker Mitigation effort to develop a method to recoat lead-free component finishes with tin-lead alloy to avoid the electrically conductive hair-like filaments that can cause electrical shorting failures and mechanical damage.
- Initiated LPW effort with DDG 51 Program Office and seven suppliers to improve deliveries, improve quality, and reduce cost.
- Initiated LPW engagements with two CVNs to introduce lean concepts and improve sortie rate.

FY 2005 Plans:

- Continue all efforts of FY04 less those noted as completed above.
- Complete SPANS effort in supply chain development and management technologies.
- Complete LPW effort with DDG 51 Program Office and seven suppliers.
- Complete LPW engagements with CVNs.
- Initiate and complete Aegis Ballistic Missile Defense (BDM) Weapons Control Systems (WCS) Computer Processors effort to aid in the integration of state-of-the-art, non-developmental item processors into the Aegis upgrade to meet deployment schedule.
- Initiate and complete effort to develop Navy Capability for Analytical Computing Engineering Trade Studies for a resident analytic computing center for the Navy to support Navy acquisition programs.
- Initiate and complete effort on Lean Six Sigma for Naval Air Systems Command (NAVAIR).

FY 2006 Plans:

- Continue all efforts of FY05 less those noted as completed above.
- Initiate efforts to continue to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the Littoral Combat System (LCS), CVN 21 carrier program, and others.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: R1050

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2007 Plans:

- Continue all efforts of FY06 less those noted as completed above.
- Initiate efforts to continue to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technologies improvements for Navy weapon system acquisition programs such as the Littoral Combat System (LCS), CVN 21 carrier program, and others.

C. OTHER PROGRAM FUNDING SUMMARY:

RELATED RDT&E:

Major Acquisition programs, such as: DD(X), LPD-17, V-22, EFV, F/A-18, and CVN-21.

NON-NAVY RELATED RDT&E:

PE 0708011F Industrial Preparedness

PE 0708045A End Item Industrial Preparedness Activities

PE 0708011S Manufacturing Technology

D. ACQUISITION STRATEGY:

Not applicable.

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DATE: Feb 2005

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: Various

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R2674	FY 2004	FY 2005
IMPROVE MANUFACTURABILITY DEMO OF EXHAUST COMPONENTS FOR MILITARY AIRCRAFT	0	981

This purpose of this project is to improve manufacturability (and therefore reduce production costs) of silicon carbide - carbon composite (SiC-C) exhaust flaps and seals on the GE F414 engine for the F/A 18 E/F Super Hornet fighter jet, resulting in projected savings of more than \$30M over the remaining life of the F414 production program.

R2674	FY 2004	FY 2005
MANUFACTURING TECHNOLOGY	10,005	0

Funding was used to support continuing efforts under the Manufacturing Technology (ManTech) Integrated Investment Strategy focusing on CVN 21 weight reduction initiatives, J-UCAS production vehicle, and composite-to-steel processes for DD(X). Initiated a study with the Future Naval Capabilities (FNC) community to look at enabling capabilities similar to ManTech platforms for selection of a candidate technology for ManTech affordability/transition work. Initiated a program to improve energy density to increase battery lifetime in operational (especially dismounted) units.

R2674	FY 2004	FY 2005
NANO-IMPRINT AT A MANUFACTURING SCALE	0	2,747

This project will develop the imprint lithography process issues relating to fluid delivery, imprinting and in-liquid alignment while keeping the constraints of interferometric mag-lev stages in mind. It will build on unique capabilities in the motion systems area that have been developed.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification			DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			NAT'L SHIPBLDG RES PROG ADV SHIPBLDG ENTERPRISE/0708730N					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	14.086	10.172	0.000	0.000	0.000	0.000	0.000	0.000
Automatic Identification Technology/9441	2.699	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NSRP/ASE/2466/2811	9.657	10.172	0.000	0.000	0.000	0.000	0.000	0.000
Maritime Tech, Ship Design & Sys Develop Init/9121	1.730	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Defense Emergency Response Funds (DERF) Funds: N/A								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
Project 2466/2811 (NSRP ASE): The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair. Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources. The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics National Steel and Shipbuilding, Todd Pacific, Bollinger Shipyards and Bender Shipbuilding.								
Project 9121 (Maritime Technology, Ship Design and Systems Development Initiative): Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.								

R-1 SHOPPING LIST - Item No. 210

UNCLASSIFIED

CLASSIFICATION:

_____ EXHIBIT R-2, RDT&E Budget Item Justification					DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0708730N Maritime Technology/9441				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE0708730N Cost	2.699	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Automatic Identification Technology	2.699	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	Not Applicable							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navy Automatic Identification Technology (AIT) Engineering Support Center (ESC) will support the Navy AIT Project Office (NAVSUP) customers comprised of 35 Navy-wide Echelon II and subordinate commands with AIT integration into supply chain business processes and automated information systems to enhance Fleet readiness and improve logistics</p> <p>(U)B. JUSTIFICATION OF BUDGET ACTIVITY: This is a new Congressional Add.</p> <p style="text-align: center;">R-1 SHOPPING LIST - Item No. 210</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7				PROJECT NUMBER AND NAME 9121/Maritime Tech, Ship Design & Systems Development Initiative				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.730	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: <p>Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.</p>								

R-1 SHOPPING LIST - Item No. 210

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7	PROGRAM ELEMENT NUM 0708730N/NSRP ASE	PROJECT NUMBER AND NAME 9121/Maritime Tech, Ship Design & Systems Development Initiative		
B. Accomplishments/Planned Program				
	FY 04	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; min-height: 50px;">Project funding has been received, added to the Gulf Coast Region Maritime Technology Center Cooperative Agreement and research projects have been initiated. Projects currently underway include: Shipboard Applications of Lightweight Ship Structures; Socket Welding of Titanium Grades Using GTAW with Flux Assist; Short Robot Production Runs; Ship Works Robotics Laboratory Vision System; Lean Six Sigma in Shipbuilding; Avondale Manufacturing Process Modeling. All projects are being performed jointly by the University of New Orleans and Northrop Grumman Ship Systems Avondale Operations to support Navy ship programs such as LPD-17.</div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; min-height: 50px;">Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.730			
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; min-height: 50px;">Funds will be provided to the Gulf Coast Region Maritime Technology Center Cooperative Agreement for projects in the following thrust areas: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.</div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDTE, N/BA-7	0708730N/NSRP ASE	9121/Maritime Tech, Ship Design & Systems Development Initiative		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	1.800	0.000		
FY 2006/2007 President's Budget	1.730	0.000		
Total Adjustments	-0.070	0.000	0.000	0.000
Summary of Adjustments				
SBIR/STTR Transfer	-0.048			
Economic Assumptions	-0.015			
Non Pay Inflation Savings	-0.002			
Management Improvements	-0.005			
Subtotal	-0.070			
Schedule:				
Not Applicable.				
Technical:				
Not Applicable.				

R-1 SHOPPING LIST - Item No. 210

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0708730N/NSRP ASE			PROJECT NUMBER AND NAME 9121/Maritime Tech, Ship Design & Systems Development Initiative					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
None.										
E. ACQUISITION STRATEGY:										
R&D will be executed through the Gulf Coast Region Maritime Technology Center Cooperative Agreement with the University of New Orleans.										
NOTE: No funding has been received through the Emergency Response Fund, Defense (ERF,D)										

R-1 SHOPPING LIST - Item No. 210

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME						
RDT&E, N/BA-7			0708730N/NSRP ASE		9121/Maritime Tech, Ship Design & Systems Development Initiative						
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
										0.000	
Technology Development	CA	University of New Orleans	1.730							8.074	
										0.000	
										0.000	
										0.000	
										0.000	
										0.000	
										0.000	
										0.000	
										0.000	
										0.000	
Subtotal Technology Development			1.730				0.000		0.000	8.074	
Remarks:											
Development Support										0.000	
Software Development										0.000	
Training Development										0.000	
Integrated Logistics Support										0.000	
Configuration Management										0.000	
Technical Data										0.000	
GFE										0.000	
Award Fees										0.000	
Subtotal Support			0.000		0.000		0.000		0.000	0.000	
Remarks:											

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:			
					February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7			PROJECT NUMBER AND NAME 2466/2811/NSRP ASE					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	9.657	10.172	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Project 2466/2811 (NSRP ASE): The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair. Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources. The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, VT Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics National Steel & Shipbuilding, Todd Pacific, Bollinger Shipyards Inc., and Bender Shipbuilding.								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7		PROJECT NUMBER AND NAME 2466/2811/NSRP ASE		
B. Accomplishments/Planned Program				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost		9.002		
RDT&E Articles Quantity		N/A		
<p>Initiate technology development projects in the six major initiate areas selected from Research Announcement 4. All projects will be performed jointly by the Executive Control Board (ECB) of the National shipbuilding Research Program (NSRP) to support current and future Navy Shipbuilding programs.</p>				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity	N/A			
<p>Complete remaining technology development projects in the six major initiative areas selection from Research Announcement Two and Two Prime: Projects to be completed include SPARS, Lean Manufacturing LASOX. All projects are being performed jointly by the Executive control board of the National Shipbuilding Research Program to support current and future Navy shipbuilding programs.</p>				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.554	0.500		
RDT&E Articles Quantity	N/A	N/A		
<p>Continue utilization of industry-led major initiative teams and NSRP panels to perform the execution and annual review of the Strategic Investment Plan, including technology projects, technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7		PROJECT NUMBER AND NAME 2466/2811/NSRP ASE		
B. Accomplishments/Planned Program				
	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	8.512			
RDT&E Articles Quantity	N/A			
Initiate technology development projects in the six major initiative areas selected from Research Announcement 3. Proposed projects include: Auto Generation, World Class Material Stds, SPARS, SPARS-2, ISE-2, ISE-3, Lean Manufacturing, Extended Lean Manufacturing, Lasox, WEMACS, Common Parts Catalog, Lean Simulation Training Exercises, Second Tier Design Enhancements. All projects will be performed jointly by the Executive Control Board (ECB) of the National shipbuilding Research Program (NSRP) to support current and future Navy Shipbuilding programs.				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.250	0.250		
RDT&E Articles Quantity	N/A			
Continue transition of projects to shipbuilding programs.				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.341	0.420		
RDT&E Articles Quantity				
Operate multi-agency support office to facilitate technology transfer between Government and industry.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <div style="text-align: right;">February 2005</div>																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7	PROGRAM ELEMENT NUMBER 0708730N/NSRP ASE	PROJECT NUMBER AND NAME 2466/2811/NSRP ASE																																										
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY2005 President's Budget</td> <td style="text-align: right;">10.068</td> <td style="text-align: right;">10.265</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY 2006/2007 President's Budget</td> <td style="text-align: right;">9.657</td> <td style="text-align: right;">10.172</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.411</td> <td style="text-align: right; border-top: 1px solid black;">-0.093</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 40px;">SBIR/STTR Transfer</td> <td style="text-align: right;">-0.273</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 40px;">Miscellaneous Adjustments</td> <td style="text-align: right;">-0.138</td> <td style="text-align: right;">-0.093</td> <td></td> <td></td> </tr> <tr> <td style="padding-top: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.411</td> <td style="text-align: right; border-top: 1px solid black;">-0.093</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 40px;">Schedule: Not Applicable.</p> <p style="margin-top: 40px;">Technical: Not Applicable.</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY2005 President's Budget	10.068	10.265	0.000	0.000	FY 2006/2007 President's Budget	9.657	10.172	0.000	0.000	Total Adjustments	-0.411	-0.093	0.000	0.000	Summary of Adjustments					SBIR/STTR Transfer	-0.273				Miscellaneous Adjustments	-0.138	-0.093			Subtotal	-0.411	-0.093	0.000	0.000
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																								
FY2005 President's Budget	10.068	10.265	0.000	0.000																																								
FY 2006/2007 President's Budget	9.657	10.172	0.000	0.000																																								
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Miscellaneous Adjustments	-0.138	-0.093																																										
Subtotal	-0.411	-0.093	0.000	0.000																																								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, Page 11 of 13)

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME				
RDT&E, N/BA-7			0708730N/NSRP ASE		2466/NSRP ASE				
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
								0.000	
Technology Development	SS OT*	ECB NSRP**	9.316	VARIOUS	9.752			28.064	
	RX	ONR						0.110	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
Subtotal Technology Development			9.316		9.752		0.000	28.174	
Remarks: * Other Transactions IAW 10 USC 2371 ** Executive Control Board of the National Shipbuilding Research Program									
Gov't Support Serv/Other Agencies	IPR/WR	MARAD	0.018		0.030			0.078	
Support Services Revolving Accts	MIPR/WR	VARIOUS	0.268		0.370			0.807	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
Subtotal Support			0.286		0.400		0.000	0.885	
Remarks:									

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Exhibit R-3, Project Cost Analysis

(Exhibit R-3, Page 12 of 13)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7			PROGRAM PROJECT NUMBER AND NAME 0708730N 2466/NSRP ASE							
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation									0.000	
Operational Test & Evaluation									0.000	
Live Fire Test & Evaluation									0.000	
Test Assets									0.000	
Tooling									0.000	
GFE									0.000	
Award Fees									0.000	
Subtotal T&E			0.000		0.000			0.000	0.000	
Remarks:										
Contractor Engineering Support									0.000	
Technology Development	Reqn*	TRW/Schafer Corp.							0.000	
Technology Development		PSU/APL							0.000	
PM Support	MAC	JJMA	0.025						0.025	
NSNET		University of Michigan							0.400	
Travel			0.030		0.020				0.075	
SBIR Assessment									0.000	
Subtotal Management			0.055		0.020			0.000	0.100	
Remarks: * Procure under GSA Schedule										
Total Cost			9.657		10.172			0.000	29.159	
Remarks:										